DOCUMENT RESUME

ED 110 818 CE 004 638

AUTHOR Fry, John P.; Cliborn, Robert E.
TITLE Development, Implementation, and Evaluation of Leadership/Management Training Within Army Battalions. Volume II. Technical Appendices.
INSTITUTION Human Resources Research Organization, Fort Bliss, Tex. Div. 5.
SPONS AGENCY Army Research Inst. for the Behavioral and Social Sciences, Arlington, Va.
REPORT NO HumRRO FR-WD-TX-75-11-Vol-II
PUB DATE Jun 75
NOTE 89p.; For volume I, see CE 004 637

EDRS PRICE MF-$0.76 HC-$4.43 Plus Postage
DESCRIPTORS Data; *Data Analysis; Educational Programs; *Leadership Training; Management Education; *Military Training; Organizational Development; Participant Satisfaction; *Program Attitudes; Program Evaluation; *Questionnaires; Surveys; Tables (Data)

ABSTRACT

The volume contains nine supplementary appendixes to the final report of the program for developing, implementing, and evaluating leadership/management training within Army battalions: post-training survey results of the individual and group problem-solving workshop; typical examples of the use of program skills or comments on program skill use; distribution of gains in estimated program skill use; response percentages to problem checklist; the Human Resources Research Organization Battalion Questionnaires for Units B and C; scaling; the feedback system; and an in-depth analysis of the evaluation. (JR)

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# Development, Implementation, and Evaluation of Leadership/Management Training Within Army Battalions

## Vol. 2 Technical Appendices

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CE004638

June 1975

Prepared for

U.S. Army Research Institute for the Behavioral and Social Sciences
1300 Wilson Boulevard
Arlington, Virginia 22209

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|---|---|---|
| 1. REPORT NUMBER<br>HumRRO FR-WD-TX-75-11-Vol-II | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE (and Subtitle)<br>DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF LEADERSHIP/MANAGEMENT TRAINING WITHIN ARMY BATTALIONS. VOLUME II: TECHNICAL APPENDICES | | 5. TYPE OF REPORT & PERIOD COVERED<br>Final Report<br>6. PERFORMING ORG. REPORT NUMBER<br>HumRRO-FR-WD-TX-75-11 Vol II |
| 7. AUTHOR(s)<br>J. P. Fry and R. E. Cliborn | | 8. CONTRACT OR GRANT NUMBER(s)<br>DAHC 19-73-C-0004 |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br>Human Resources Research Organization (HumRRO)<br>300 North Washington Street<br>Alexandria, Virginia 22314 | | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS<br>2Q763731A770 |
| 11. CONTROLLING OFFICE NAME AND ADDRESS<br>U.S. Army Research Institute for the Behavioral and Social Sciences<br>1300 Wilson Blvd., Arlington, Virginia 22209 | | 12. REPORT DATE<br>June 1975<br>13. NUMBER OF PAGES<br>85 |
| 14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) | | 15. SECURITY CLASS. (of this report)<br>Unclassified<br>15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Research conducted by HumRRO Western Division, Fort Bliss Office, Fort Bliss, Texas, under Work Unit SKIM. See also "Development, Impelentation and Evaluation of Leadership/Management Training Within Army Battalions. Volume I; Summary and Findings."

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Experiential learning
Leadership
Management
Military training
Organizational development
Small group instruction

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report describes the development and evaluation of an experiential-based, leadership/management training program that was implemented within three battalion-sized combat units at Fort Bliss, Texas, in 1974. The project was part of a Headquarters, Department of the Army experimental Motivational Development Program which was conducted from 1972-75. Results were consistent with previous research findings; that is, attitudinal data was positive, but "hard" data, such as performance improvement was inconclusive.

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APPENDIX B

POST-TRAINING ATTITUDE SURVEY RESULTS: INDIVIDUAL AND GROUP PROBLEM-SOLVING WORKSHOP

Composite: 60 Participants From Units B and C

(in percentages)

| | | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|---|
| 1. | I liked the method of instruction in this workshop. | 50 | 48 | -- | 2 | -- |
| 2. | I recommend this workshop for other Army leaders. | 52 | 45 | 2 | -- | -- |
| 3. | I already used most of the techniques presented before entering the workshop. | 13 | 43 | 28 | 16 | -- |
| 4. | I feel competent enough in the use of GPS (Group Problem-Solving) techniques to use them on-the-job now. | 25 | 60 | 15 | -- | -- |
| 5. | GPS training will help me to develop my subordinates' leadership ability. | 28 | 48 | 22 | 2 | -- |
| 6. | I would like to train others in tne use of GPS techniques. | 20 | 38 | 28 | 12 | 2 |
| 7. | I am convinced that GPS techniques help to increase the quality of decisions, especially those involving people problems. | 47 | 41 | 10 | 2 | -- |
| 8. | I am convinced that GPS techniques help to increase acceptance of decisions by subordinates. | 51 | 45 | 4 | -- | -- |
| 9. | I plan to use GPS techniques for conflicts that arise between me and my immediate subordinates. | 16 | 62 | 22 | -- | -- |
| 10. | I am convinced that GPS helps to strengthen the chain of command. | 12 | 45 | 36 | 7 | -- |
| 11. | I am convinced that I can easily switch my leadership style from GPS methods to traditional methods and vice versa, depending on the situation. | 33 | 43 | 20 | 4 | -- |
| 12. | To use GPS effectively, I will have to train my subordinates so that they can give me accurate feedback on how well I am using the techniques. | 12 | 48 | 16 | 22 | 2 |
| 13. | I am convinced that when a leader takes a GPS facilitator role he is still in control. | 18 | 67 | 13 | 2 | -- |
| 14. | I'm convinced GPS techniques help channel emotion and frustration into productive results. | 38 | 52 | 10 | -- | -- |
| 15. | I'm convinced GPS makes me a more flexible leader. | 30 | 58 | 12 | -- | -- |
| 16. | I am convinced that open "two-way" communication between me and my subordinates will increase through the use of GPS techniques. | 33 | 56 | 9 | 2 | -- |
| 17. | I am convinced that the feedback derived from GPS is essential to effective leadership/management. | 27 | 58 | 13 | 2 | -- |

POST-TRAINING ATTITUDE SURVEY RESULTS: INDIVIDUAL AND GROUP PROBLEM-SOLVING WORKSHOP

(in percentages)

| | | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|---|
| 18. | For what one gains, I feel GPS takes <u>too much time</u>. | -- | 18 | 22 | 52 | 8 |
| 19. | I feel GPS is really "permissive" leadership. | 3 | 10 | 27 | 57 | 3 |
| 20. | I feel GPS permits subordinates to become <u>too close</u> to the leader or supervisor. | 2 | 2 | 22 | 60 | 14 |
| 21. | If I used GPS techniques, my <u>control</u> of my immediate subordinates would <u>decrease</u>. | -- | 7 | 15 | 60 | 18 |
| 22. | I <u>fear</u> losing my "command authority or presence" by using GPS with subordinates (e.g., they'll get me into arguments where I'll lose face). | -- | 7 | 7 | 63 | 23 |
| 23. | I plan to use a problem-solving approach when performance counseling. | 27 | 56 | 15 | 2 | -- |
| 24. | I feel that a problem-solving approach to performance counseling gets subordinates to voluntarily admit their shortcomings or mistakes. | 18 | 45 | 28 | 9 | -- |

25. I wish my supervisor or leader were using GPS or a problem-solving approach to performance counseling.

YES 31% SOMETIMES 30% NO 5% HE ALREADY IS 34%

26. I expect to use GPS on about <u>40</u> percent of the problems that I face on-the-job.* <u>Before</u> this workshop, I used GPS on about <u>10</u> percent of my problems.**

27. I expect to use a <u>problem-solving</u> approach to <u>performance counseling</u> about <u>75</u> percent of the time.* <u>Before</u> this workshop, it was about <u>40</u> percent of the time.**

Note: Due to skewed distributions for answers to Questions #26 and #27, the median has been used as the best representative of central tendency.

* Five participants did not respond to these questions (N=55).

** Participants from Unit B did not respond to these questions, since at the time of administration they were not on the questionnaire. (N=29)

APPENDIX B

POST-TRAINING ATTITUDE SURVEY RESULTS: PERFORMANCE MANAGEMENT WORKSHOP

Composite: 53 Participants From Units B and C

(in percentages)

| | | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree | No Response |
|---|---|---|---|---|---|---|---|
| 1. | I recommend this workshop for other Army leaders. | 57 | 36 | 5 | 2 | -- | |
| 2. | I feel competent enough to set up Performance Management (PM) programs with my immediate subordinates. | 17 | 68 | 11 | -- | -- | (4) |
| 3. | I would like to train others in the use of PM techniques and programs. | 9 | 51 | 32 | 8 | -- | |
| 4. | I am convinced that PM techniques will help me improve the performance of my immediate subordinates. | 32 | 51 | 15 | -- | -- | (2) |
| 5. | I am convinced that Performance Counseling would be more effective when it is followed up by PM programs. | 30 | 66 | 2 | 2 | -- | |
| 6. | In most cases, PM programs should provide a better way to motivate subordinates than threats or punishment. | 36 | 53 | 11 | -- | -- | |
| 7. | As a result of this workshop, I plan to use verbal reinforcement with my immediate superiors (I already am 4%). | 21 | 63 | 8 | 4 | -- | |
| 8. | As a result of this workshop, I plan to use verbal reinforcement with members of my family (I already am 8%). | 28 | 51 | 11 | -- | -- | (2) |
| 9. | I am convinced that over time the feedback derived from setting up a PM program can be used to replace daily reinforcement from me. | 13 | 55 | 26 | 4 | -- | (2) |
| 10. | I am convinced that to be effective, punishment is best used within the context of a PM program. | 15 | 47 | 28 | 6 | -- | (4) |
| 11. | I am convinced that to eliminate undesired job-related behavior, the best approach, in most cases, is to ignore the undesired behavior and reinforce a substitute desired behavior. | 11 | 36 | 36 | 17 | -- | |
| 12. | For what one gains, I feel PM takes too much time. | -- | 11 | 26 | 53 | 9 | |

13. My supervisor is using the basic skills of PM (Module I) with me:

17% Most of the time 55% Sometimes 9% Never 19% No response

I wish he were using the basic skills: 42% Most of the time 19% Sometimes

15% Never 24% No response

POST-TRAINING ATTITUDE SURVEY RESULTS: PERFORMANCE MANAGEMENT WORKSHOP

14. When attempting to motivate my subordinates to improve their job performance (before coming to this workshop), I already used the basic skills of PM about 50 percent of the time.

15. Now, when attempting to motivate my subordinates to improve their job performance, I expect to use the basic skills of PM about 75 percent of the time.

Note: Answers to items #14 and #15 are median estimates.

APPENDIX B

POST-TRAINING ATTITUDE SURVEY RESULTS: MANAGEMENT BY OBJECTIVES WORKSHOP

Composite: 34 Participants From Units B and C

(in percentages)

| | | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|---|
| 1. | I recommend this workshop to other Army leaders. | 50 | 38 | 6 | 6 | -- |
| 2. | I feel competent enough to use MBO today. | 12 | 65 | 23 | -- | -- |
| 3. | I would like to train others to use MBO. | 9 | 50 | 29 | 12 | -- |
| 4. | I am convinced that use of MBO will help to improve the performance of my immediate subordinates. | 24 | 56 | 17 | 3 | -- |
| 5. | I am convinced that "Group Problem-Solving" and "Performance Counseling" would be more effective when they are followed by written performance objectives. | 26 | 50 | 18 | 6 | -- |
| 6. | I am convinced that MBO would be more effective when it is followed by "Performance Management" techniques. | 18 | 56 | 20 | 3 | 3 |
| 7. | I am convinced that the use of MBO will increase acceptance of and commitment to unit goals and performance objectives. | 24 | 59 | 17 | -- | -- |
| 8. | I am convinced that MBO provides an objective (valid and reliable) means of evaluating the performance of subordinates. | 18 | 64 | 15 | 3 | -- |
| 9. | I am convinced that the use of MBO increases clear communication. | 26 | 59 | 15 | -- | -- |
| 10. | In most cases, MBO should decentralize decision-making and problem-solving to the lowest appropriate levels. | 18 | 53 | 29 | -- | -- |
| 11. | As a result of this workshop, I plan to use MBO with my immediate subordinates. (I already am 47%) | 18 | 56 | 26 | -- | -- |
| 12. | For what one gains, I feel that writing out objectives takes too much time. | -- | 6 | 47 | 38 | 9 |

13. I wish my supervisor were using MBO:

38% Most of the time  27% Sometimes  3% Never  32% He already is

POST-TRAINING ATTITUDE SURVEY RESULTS: MANAGEMENT BY OBJECTIVES WORKSHOP

| 14. My Action: | BEFORE being in this workshop: | AFTER being in this workshop I expect to: |
|---|---|---|
| a. Identify and set unit goals: | 79% yes, 21% no | 100% yes, ___ no, ___ ? |
| b. Identify and set unit goals with my immediate subordinates: | 65% yes, 35% no | 100% yes, ___ no, ___ ? |
| c. Define goals by measurable performances: | 47% yes, 53% no | 97% yes, 3% no, ___ ? |
| d. Write down performance objectives: | about 10% of the time | about 50% of the time |
| e. Mutually agreed upon with subordinates: | about 50% of the time | about 60% of the time |
| f. Include conditions/resources: | about 50% of the time | about 70% of the time |
| g. Include measurable standards: | about 50% of the time | about 75% of the time |
| h. Set a deadline: | about 90% of the time | about 95% of the time |

Note: Answers to items 14d - 14h are median estimates.

APPENDIX B

POST-TRAINING ATTITUDE SURVEY RESULTS: JUNIOR NCO WORKSHOP

Composite: 27 Participants From Units B and C

(in percentages)

| | | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|---|
| 1. | I recommend this workshop for other NCOs in my unit. | 78 | 22 | -- | -- | -- |
| 2. | The content of this workshop was clearly related to my work as a supervisor. | 51 | 41 | 4 | 4 | -- |
| 3. | I know how to apply the skills presented in this workshop. | 26 | 63 | 11 | -- | -- |
| 4. | I plan to use Performance Counseling techniques to resolve conflicts that arise between me and my immediate subordinates. | 56 | 37 | 7 | -- | -- |
| 5. | For what one gains, I feel that these Performance Counseling techniques take too much time. | -- | 12 | 22 | 33 | 33 |

6. My supervisor is using a problem-solving approach to performance counseling:
15% Most of the time 56% Sometimes 29% Never
I wish he were using such an approach in his counseling:
81% Most of the time 19% Sometimes -- Never

7. I expect to use a problem-solving approach to performance counseling about 90 percent of the time. Before this workshop, it was about 27.5% of the time.

| | | | | | | |
|---|---|---|---|---|---|---|
| 8. | Performance Counseling would be more effective when it is followed by written performance objectives. | 34 | 44 | 22 | -- | -- |
| 9. | For what one gains, I feel that writing out performance objectives takes too much time. | -- | 7 | 30 | 37 | 26 |

10. I expect to write out performance objectives (to include conditions, resources, measurable standards and a deadline) with my subordinates about 75 percent of the time that such opportunities present themselves. Before this workshop, I did this about 0 % of the time.

| | | | | | | |
|---|---|---|---|---|---|---|
| 11. | I feel that I can set up Performance Management (PM) programs with my immediate subordinates. | 37 | 56 | 7 | -- | -- |
| 12. | Performance Counseling would be more effective when it is followed by PM programs. | 33 | 67 | -- | -- | -- |
| 13. | In most cases, PM programs should provide a better way to motivate subordinates than threats or punishment. | 52 | 41 | 7 | -- | -- |
| 14. | For what one gains, I feel PM programs take too much time. | -- | 7 | 11 | 41 | 41 |



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15. My supervisor is using the basic skills of PM with me:
11% Most of the time 63% Sometimes 26% Never
I wish he were using the basic skills: 70% Most of the time 30% Sometimes
-- Never

16. When attempting to motivate my subordinates to improve their job performance (before coming to this workshop), I already used the basic skills of PM about 25 % of the time.

Now, when attempting to motivate my subordinates to improve their job performance, I expect to use the basic skills of PM about 90 % of the time.

Note: Answers to items #7, 10, and 16 are median estimates.

APPENDIX C

TYPICAL EXAMPLES OF USE OF SKIM SKILLS
OR COMMENTS ON SKIM SKILL USE

Performance Counseling Examples

"An enlisted man had a very negative attitude. When I counseled him I found out that his wife had just had a baby and he wanted some time off to go see them."

"An enlisted man was always a problem. I found out that he disliked his MOS and together we found him another MOS."

"More lower ranking men are coming in to see me." (CSM)

"After counseling my immediate subordinates, I got more work out of them."

"One man had already gone to the IG and the Chaplain. When I counseled him the basic problem came out and good results followed."

"A good soldier was heavily in debt and wanted out of the Army. I counseled him but he still wants out no matter what--even a Chapter 13."

"I had an EM who was crying. By writing down his problems, he could look at them realistically."

"My counseling has been effective since I let my subordinates get their solutions out."

"Two Master Sergeants were in conflict but they aren't now because of my counseling them together."

"I counseled a highly intelligent EM who was unhappy in his job. By listing out on the blackboard what his needs were, we decided to trade his job for that of unit clerk. For two and a half months now things have been going real well with him."

"I do a lot of counseling with young E-4 who are about to become SGT. I let them know that I am watching them for promotion and that they are doing a really good job. One man was not able to perform as an acting SGT but he was a good E-4. I wanted to return him to the specialist slot without ruining his motivation; he just wasn't ready to be SGT. I counseled with him and he understood and is doing well as E-4."

"I had an EM with a haircut problem. When I counseled with him, I found out that his real problem was with his platoon which he hated. I got him into a different platoon and he got a haircut. Things are much better."

"A LT was showing his personal feelings too much on-the-job. I explained to him that I felt it was unprofessional. Since we discussed this, there have been no more problems in this area."

"I had a man who came to the unit from the stockade and I counseled him several times. Finally he opened up to me about his severe problems with his wife and that he AWOLed to visit her. I explained to the man that I would give him leave to settle these problems. Then I reinforced him for returning from leave on time. He has not gone AWOL since and is working better."

"I have had about 40 performance counseling sessions since April and I feel I have gotten these men to open up. I know I prevented some AWOLs. Now EM from other sections come to me."

"I have a man who threatens to AWOL twice a month; he has severe financial problems. So far counseling has not worked with him."

"I do a lot of counseling with EM and the success depends on the person."

Group Problem-Solving Examples

"We used GPS to solve an attitude problem in the shop. We were to go COMPAC with Ft Bliss but everyone was procrastinating about it. We put this up as a group problem and the results were fine."

"I've used all the GPS skills at one time or another."

"I have five subordinates to problem solve with. When they wanted to rearrange the office because of lack of space, I listened to their ideas and we made a sketch. Then we selected one set up and everyone helped move furniture. Now they seem to feel more free to talk with me."

"When we went to the field, I was always on the radio telling my platoon what to take, what to do, what to carry, and where to go. I had to direct every action. After the GPS workshop, I got my platoon together to decide what they think they have to do, to carry, and to set up the SOP (standard operating procedure). The next field problem went great; everyone knew what to do."

"I often GPS with my subordinates now. We set the priorities and I involve my subordinates in the "HOW TO". I never did this before and now I will usually go along with their decision."

"For gunnery training, I met with my subordinates to schedule the training for others and to decide what it would consist of and what they were to carry. It didn't turn out perfect, but I was generally pleased with the performance of the section."

"There was a conflict between EM and NCOs over a hectic work schedule. This was hurting morale. The platoon got together and we worked out a new work schedule which was approved. Now they do it themselves."

"My subordinates and I worked out the best way to present a tank gunner class. We decided who to use as instructors, the scheduling, etc. This worked out very well."

"I have used GPS in some instances; it works well with junior officers and NCOs but not with EM."

"I use group problem-solving about once a month with platoon leaders and sergeants."

"I use group problem solving the most. I get my key people together so often I feel uneasy about making decisions alone. We had several GPS meetings while planning for an ORTT."

"I tried GPS with all 40 cooks to resolve a scheduling problem but I got three polarized groups. I ended up making assignments but the problem is still not solved. I feel the group was too big and the personnel too old (40-50)."

"I used GPS in the motor pool to solve a vehicle control problem. I got my section chiefs together and explained what had to be done, then I acted as moderator."

"We needed to have a 'show' track ready in the motor pool. The group decided how to do this and it worked out well."

"I'm using GPS to diagnosis problem areas.

Performance Management Examples

"I had an EM with an appearance problem--boots never shined, uniform soiled. I ran a PM program on him for two weeks keeping a record on a card and giving him reinforcers. But he was caught with marijuana and was a rehab transfer. If he had stayed, I feel the program would have worked."

"I developed an incentive system for people who were later or had poor appearance. It worked for awhile then I had to change to threats and punishments because of outside influences."

"I try to give a lot of reinforcement now. I was once watching a man who I knew was always busy. I brought the Platoon Sergeant over to the man and said 'this is a good man and he should have a promotion'."

"I like to use these skills and I feel this course has made me attempt them more often."

"I use reinforcement techniques by rewarding good behavior and giving my subordinates more responsibility."

"I have a reward system in use constantly and often make informal contracts."

"I reinforce my people by granting time off for extra hard work. Before Christmas I had the section over for dinner after two very hard field problems."

"I used reinforcement with the new civilian employees as they were learning their jobs."

Management by Objectives Examples

"I tried MBO once but because of job inexperience, it failed. It is difficult to set a goal if its unclear to you."

"We set new objectives under FORSCOM."

"I set priorities every day."

"MBO is used when field problems come up but for normal routine situations it's not necessary to use MBO."

"I used MBO more in my personal life for things like budgeting time, setting goals and setting standards for my extension course."

"I used MBO to revamp the Fire Direction Center."

"I set goals with my subordinates and they figure out how to get there. I would do this with every individual if I had the time."

Combined Workshop Skill Examples

"I find excellent use for all of these skills in working with recruitees. I believe your workshops should be presented to all district, area, and even regional commanders within the Recruiting Command." (LTC)

"I have used almost all of these skills informally since the workshops."

"We used GPS in the supply room to set goals and priorities and I try to use reinforcement frequently."

"I use all of the skills. I frequently go back to the manuals for help."

"I'm using these skills more than ever. I post ideas; get my subordinates to talk more; I listen more. I also compliment the men more."

"I had a PFC who had the potential to do more. Together, we set his goals and I let him suggest ways to meet them. I also gave him more responsibilities. I rewarded him with praise and a promotion when he succeeded. I have had amazing results with him."

"We set goals in a GPA meeting and I give reinforcement for good work. This increases each man's self-esteem and it builds reliability and initiative in my people."

"I had a person whose performance was substandard. I counseled him and we set out his objectives. His performance improved for a week and then went bad again because of a lack of punishers. There was a breakdown in the counseling for awhile then I got back with him. I used his value to the unit as leverage and now there has been some improvement."

## APPENDIX D

## DISTRIBUTIONS OF GAINS IN ESTIMATED SKIM SKILL USE

Figure D-1 shows the distribution of gains in estimated use of a problem-solving approach to Performance Counseling.

Closer inspection of the data reveals that:

a. Participants who stated that they did not use a problem-solving approach at all, or at a 5-10% rate, before training, had a median estimate of 50% after training (N=34).

b. Participants who stated that they did not increase their estimated rate of use of a problem-solving approach to performance counseling were already at a median rate of 55% (N=14).

c. Thirty-five participants increased in their estimated use of a problem-solving approach by 30 percentage points or more. Table D-1 separates these participants by rank. In general, the percent of participants from each rank and the average increase by those who increased their estimated use of a problem-solving approach to Performance Counseling by 30 percentage points or more was about the same over all ranks.

Figure D-2 shows the distribution of gains in estimated use of Group Problem-Solving skills.

a. Participants who stated that they did not use Group Problem-Solving at all before training, had a median estimate of 32.5% after training (N=26). Five said they increased from 0 to 100%.

b. Participants who stated that they did not increase their estimated rate of use of Group Problem-Solving were already averaging at a median rate of 55% (N=18). Four said they were at a 100% rate before training began.

c. Twenty-eight participants increased in their estimated use of Group Problem-Solving (GPS) by 30 percentage points or more. Table D-1 shows that ranks O1, WO, and E7 increased their estimated GPS skill use most often. The average increase was about the same over all ranks.

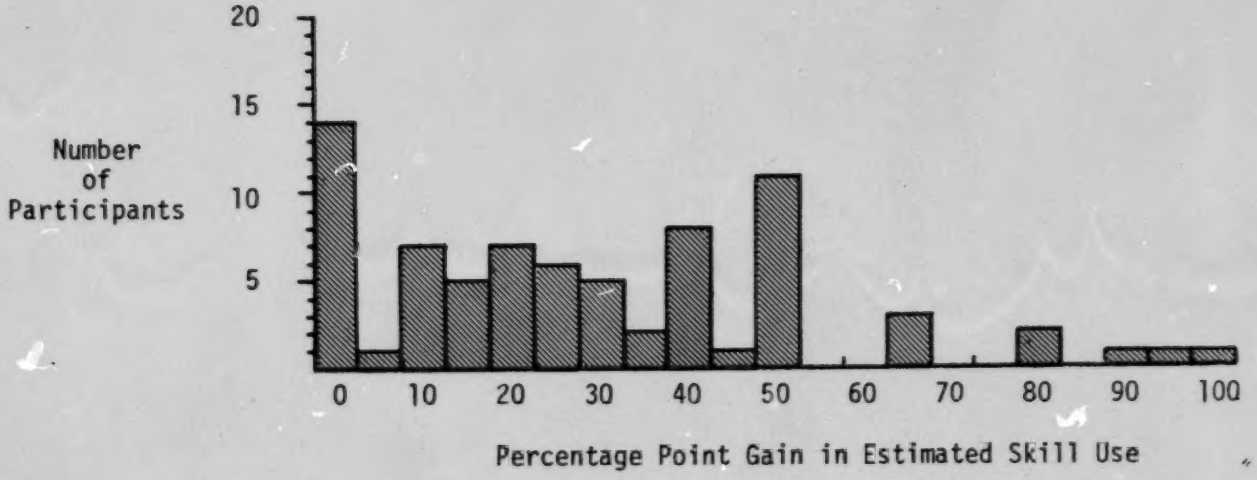



Figure D-1. Distribution of Gains (in percentage points) in Estimated Use of a Problem-Solving Approach to Performance Counseling

Table D-1

Breakdown by Rank of Participants
Who Increased Their Estimated Skill Use
by 30 Percentage Points or More

| SKILL AREA | PROBLEM-SOLVING APPROACH TO PERFORMANCE COUNSELING | | | | GROUP PROBLEM SOLVING | | | | BASIC SKILLS OF PERFORMANCE MANAGEMENT | | | | MUTUAL GOAL SETTING | | | | WRITING PERFORMANCE OBJECTIVES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RANK | N | NUMBER INCREASE | % | AVERAGE INCREASE (% PTS) | N | NUMBER INCREASE | % | AVERAGE INCREASE (% PTS) | N | NUMBER INCREASE | % | AVERAGE INCREASE (% PTS) | N | NUMBER INCREASE | % | AVERAGE INCREASE (% PTS) | N | NUMBER INCREASE | % | AVERAGE INCREASE (% PTS) |
| 05 | 1 | 1 | 100 | 35 | 1 | 1 | 100 | 45 | 1 | 1 | 100 | 75 | 1 | 1 | 100 | 40 | 1 | 1 | 100 | 55 |
| 04 | 4 | 1 | 25 | 40 | 4 | 0 | 0 | -- | 4 | 0 | 0 | -- | 4 | 0 | 0 | -- | 4 | 1 | 25 | 100 |
| 03 | 16 | 7 | 43 | 46 | 16 | 6 | 38 | 44 | 15 | 8 | 53 | 32 | 13 | 6 | 46 | 55 | 13 | 3 | 23 | 75 |
| 02 | 9 | 4 | 44 | 58 | 10 | 3 | 30 | 63 | 8 | 2 | 25 | 40 | 6 | 1 | 17 | 30 | 6 | 1 | 17 | 50 |
| 01 | 12 | 7 | 58 | 56 | 7 | 5 | 71 | 71 | 12 | 8 | 67 | 60 | 10 | 7 | 70 | 40 | 10 | 2 | 20 | 35 |
| WO | 4 | 2 | 50 | 55 | 4 | 3 | 75 | 80 | 2 | 2 | 100 | 65 | 4 | 1 | 25 | 100 | 4 | 1 | 25 | 75 |
| E9 | 3 | 0 | 0 | -- | 3 | 1 | 33 | 90 | 3 | 0 | 0 | -- | 1 | 1 | 100 | 100 | 1 | -- | -- | -- |
| E8 | 9 | 4 | 44 | 46 | 9 | 3 | 33 | 82 | 9 | 4 | 44 | 56 | 7 | 1 | 14 | 100 | 7 | 2 | 29 | 90 |
| E7 | 12 | 7 | 50 | 57 | 9 | 5 | 56 | 54 | 11 | 7 | 64 | 61 | 9 | 5 | 56 | 69 | 9 | 3 | 33 | 75 |
| E6 | 5 | 2 | 40 | 40 | 6 | 1 | 17 | 50 | 6 | 3 | 50 | 42 | 3 | 1 | 33 | 80 | 3 | 1 | 33 | 40 |
| TOTAL | 75 | 35 | 47 % | 51 (% PTS) | 69 | 28 | 41 % | 62.5 (% PTS) | 71 | 35 | 49 % | 52 (% PTS) | 58 | 24 | 41 % | 59 (% PTS) | 58 | 15 | 26 % | 68 (% PTS) |



0238

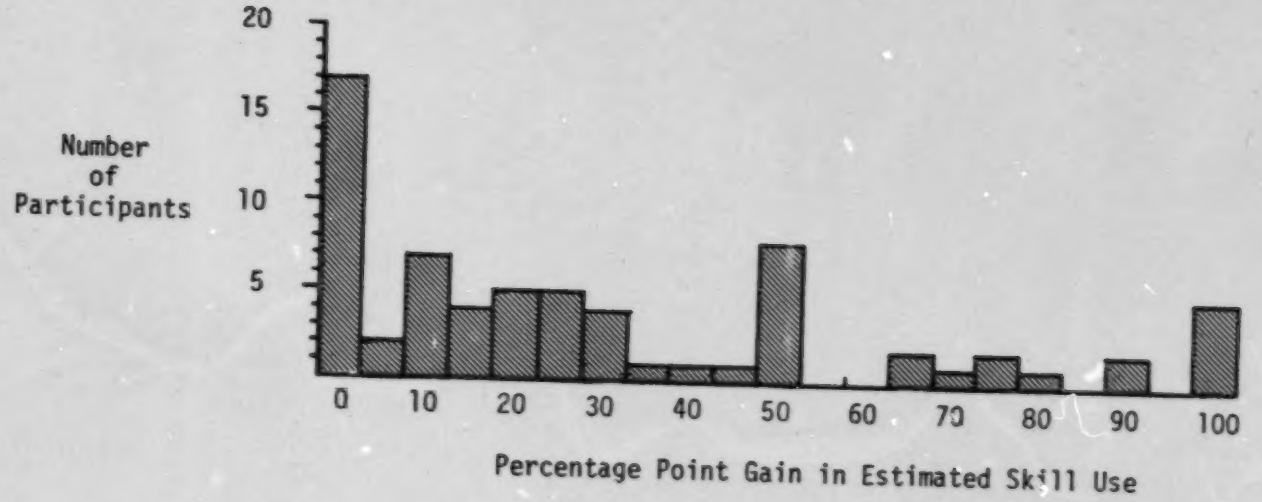



Figure D-2. Distribution of Gains (in percentage points) in Estimated Use of Group Problem-Solving Skills



024

Figure D-3 shows the distribution of gains in estimated use of the basic skills of Performance Management.

a. Participants who stated that they did not use the basic skills of Performance Management at all before training, had a median estimate of 95% after training (N=4). Those at a 5-10% rate before training, had a median estimate of 55% after training (N=11).

b. Participants who stated that they did not increase their estimated rate of use of the basic skills of Performance Management were already at a median rate of 100% (N=15). Ten stated that they were at a 100% rate before training began. Incidentally, one participant reported a decrease of from 100% to 60% in the use of reinforcement because as he said "I am now giving reinforcement correctly."

c. Thirty-five participants increased in their estimated use of the basic skills of Performance Management by 30 percentage points or more. Table D-1 shows that those at ranks 03, 01, WO, E7, and E6 increased their estimated skill use most often. The average increase was about the same over all ranks.

Figure D-4 shows the distribution of gains in estimated use of mutual setting of goals.

a. Participants who stated that they did not use mutual goal setting at all before training, had a median estimate of 50% rate after training (N=15).

b. Participants who stated that they did not increase their estimated rate of use of mutual goal setting were already at a median rate of 50% (N=17).

c. Twenty-four participants increased in their use of mutual goal setting by 30 percentage points or more. Table D-1 shows that those at ranks 03, 01, WO, E7, and E6 increased their skill use most often. The average increase was about the same over all ranks.

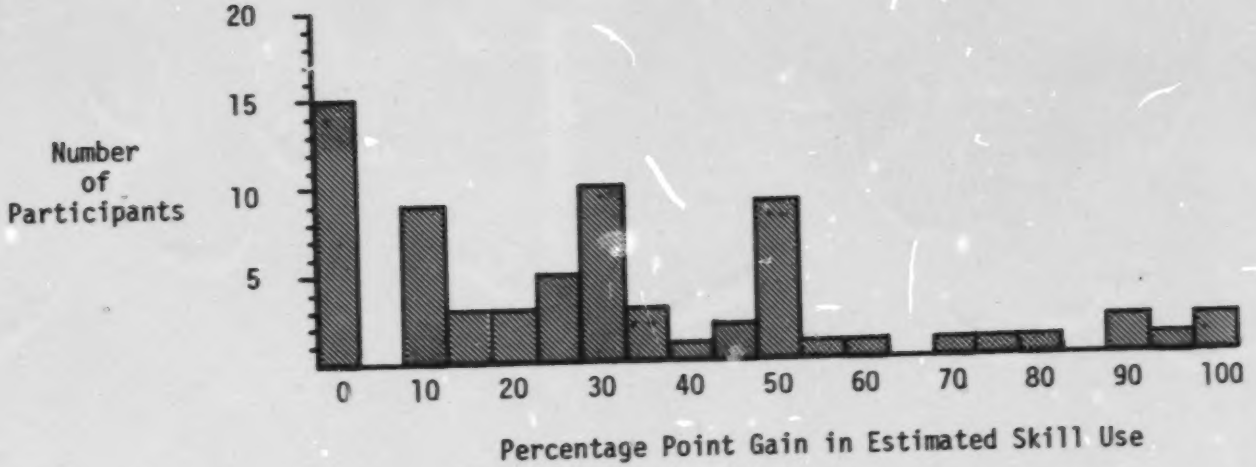



Figure D-3. Distribution of Gains (in percentage points) in Estimated Use of Written Performance Objectives



920

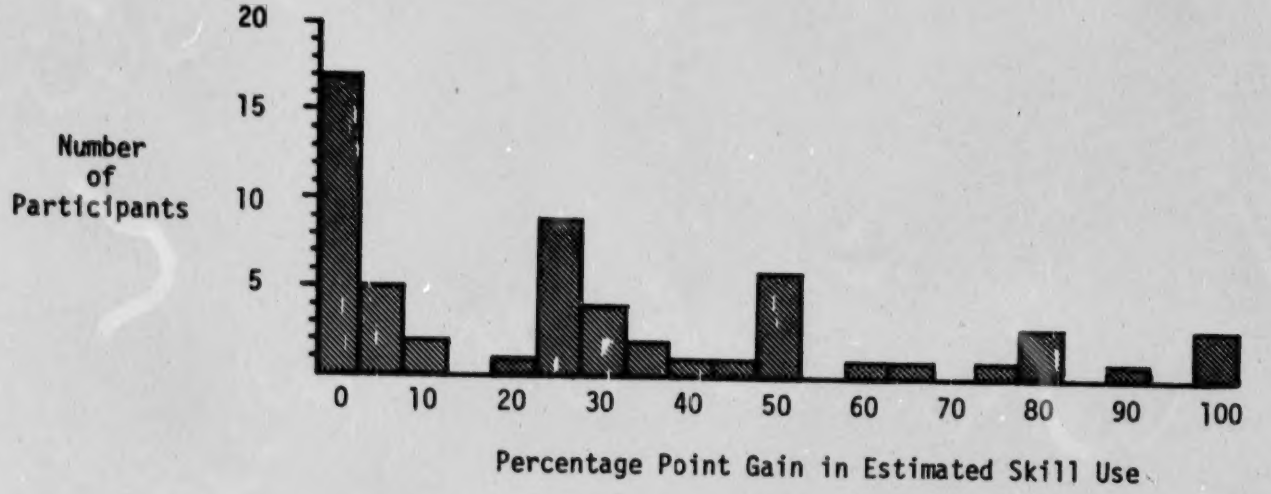



Figure D-4. Distribution of Gains (in percentage points) in Estimated Use of Mutual Setting of Goals

Figure D-5 shows the distribution of gains in estimated use of writing performance objectives.

a. Of those participants who stated that they did not write performance objectives at all before training, five increased to 90 to 100%, but most of the remainder (20) stayed at zero (N=32).

b. Of those participants who stated that they did not increase their median estimated rate of writing performance objectives, three were already at an estimated 100% rate, but most (20) were at 0% before training and stayed there after training.

c. Only 15 participants (26%) increased in their estimated rate of writing performance objectives by 30 percentage points or more. Table D-1 shows that the average increase in estimated rate of writing performance objectives was quite high, even though the number of individuals increasing was low.

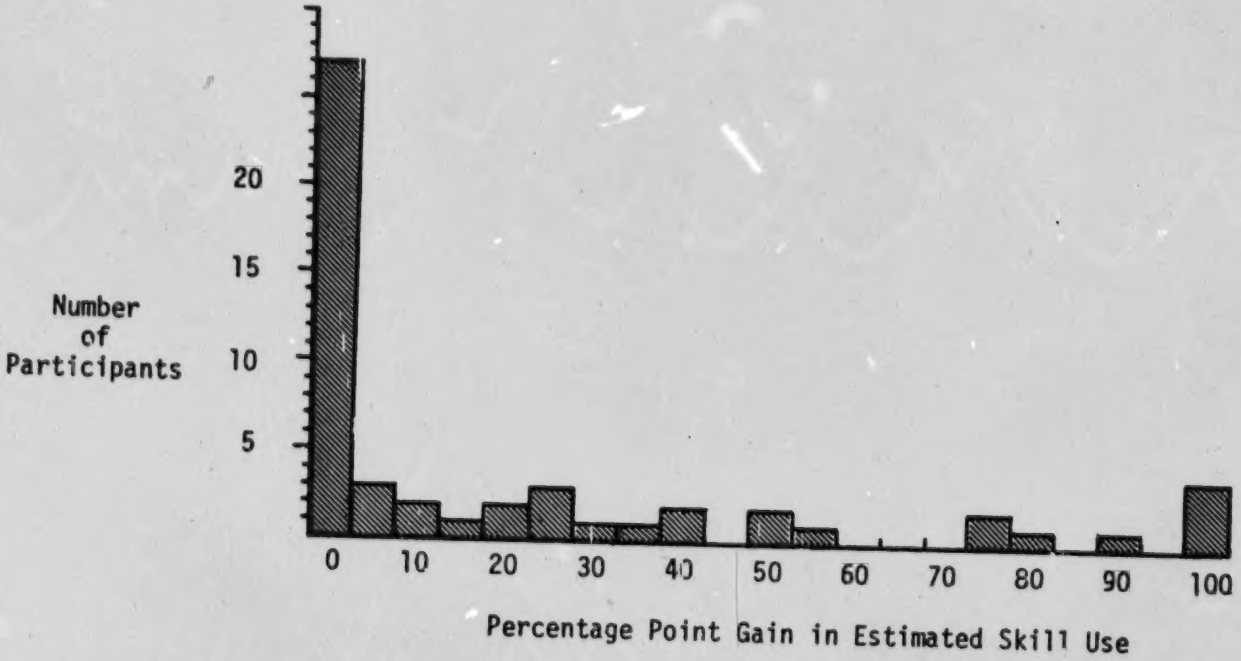



Figure D-5. Distribution of Gains (in percentage points) in Estimated Use of Written Performance Objectives

## APPENDIX E

### RESPONSE PERCENTAGES TO PROBLEM CHECKLIST

As a leader in the Army, you've probably encountered some problems. Please check as many of the statements below which describe problems you've experienced:

| Unit B (N=30) | Unit C (N=29) | |
|---|---|---|
| 23% | 17% | I've had trouble with my decisions being accepted by my subordinates. |
| 63 | 45 | I've often wished I knew how to better motivate my men. |
| 17 | 14 | I often found out later that I had misunderstood my subordinates needs and feelings. |
| 60 | 34 | Sometimes unfavorable information was withheld from me by my subordinates. |
| 23 | 14 | I've had trouble anticipating problems within my command. |
| 20 | 14 | My skills in interpersonal relations were lacking. |
| 60 | 41 | I've sometimes wondered about my superiors' intentions. |
| 13 | 7 | I've felt isolated as a commander. |
| 27 | 21 | I've had trouble introducing changes into my unit. |
| 3 | 3 | I've sometimes felt that my men go out of their way to avoid talking to me. |
| 0 | 7 | It's usually taken me a long time to develop rapport and trust with my subordinates. |
| 27 | 14 | The consequences of my decisions have often been less than what I expected. |
| 50 | 21 | I've had experiences where my listening skills were not effective. |
| 27 | 10 | When I got into discussions where evaluation of possible solutions was going on, I have wound up argumentative and hostile. |
| 63 | 48 | I foresee trouble in trying to retain men in the Army. |
| 73 | 52 | I've found that sometimes my orders were not carried out as I wanted. |
| 10 | 17 | Communications up from subordinates has rarely been to discuss their work problems. |
| 27 | 14 | I usually had to make all the decisions in my unit because my subordinates passed the buck. |

| Unit B | Unit C | |
|---|---|---|
| 17 | 14 | I've had trouble handling emotional problems (e.g., frustration) of my men. |
| 30 | 10 | I've experienced a trend of dominating discussions with my subordinates. |
| 3 | 3 | When confronting problems with minority groups, I found that I was giving in to their position unnecessarily. |
| 7 | 14 | I've used some "participative" methods with my men, but with little success. |
| 47 | 28 | One of my problems was getting my people to do what I wanted them to and have them enjoy doing it. |
| 10 | 3 | I've never had a real "rap" session. |
| 10 | 24 | My experience with "open door" policy has been less than I expected. |
| 50 | 17 | Decisions were often made by my superiors which should have included my opinion. |
| 37 | 7 | I've often made decisions which should have included my subordinates' opinion. |
| 30 | 10 | I had no direct idea of how my superior evaluated my work or felt about me. |
| 10 | 3 | My subordinates had no direct idea of how I evaluated their work or felt about them. |
| 30 | 28 | I often wondered how to effectively recognize or reward the work of my subordinates. |
| 37 | 24 | I often wondered how to better control my men. |

APPENDIX F

Human Resources Research Organization
Battalion Questionnaire
(UNIT B)

This questionnaire is part of a study to learn more about leadership. Your opinions are needed to help determine whether classes given as part of this study are effective.

By giving this questionnaire to two similar units (one unit receives the classes, the other doesn't), we can determine which changes were produced by the classes.

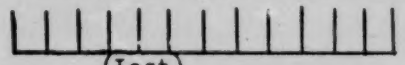
Because your honesty in completing this questionnaire is so important, it is not necessary to write your name on the questionnaire.

Some of these questions refer to your supervisor (the person who tells you what work to do and checks to see that it gets done). If you have more than one supervisor, tell the individual(s) who gave you this form. Do this NOW.

## General Data

For each of the following items, place a check ( ✓ ) on the line next to the correct answer or fill in the blank.

A. Please print your supervisor's Last Name in the space below.




B. Supervisor's Rank. (check one)

1. ___E1
2. ___E2
3. ___E3
4. ___E4
5. ___E5
6. ___E6
7. ___E7, E8, or E9
8. ___W1, W2, W3, or W4
9. ___O1 or O2
10. ___O3, O4, or O5

C. Your Rank. (check one)

1. ___E1
2. ___E2
3. ___E3
4. ___E4
5. ___E5
6. ___E6
7. ___E7, E8, or E9
8. ___W1, W2, W3, or W4
9. ___O1 or O2
10. ___O3 or O4

D. Which of the following HumRRO Workshops at Bldg 118 have you attended? (you may check more than one item)

1. ____Individual/Group Problem Solving
2. ____Performance Management
3. ____Management by Objectives
4. ____Never attended any of the workshops

E. Unit to which you are assigned. (check one)

21. ___Headquarters, 1st Squadron
22. ___A Troop
23. ___B Troop
24. ___C Troop
25. ___D Company
26. ___Howitzer Battery, 1st Squadron
27. ___Headquarters, 3d Squadron
28. ___I Troop
29. ___K Troop
30. ___L Troop
31. ___M Company
32. ___Howitzer Battery, 3d Squadron
33. ___Other (What?_____)

F. Amount of time you have been in your unit. (check one)

1. ___2 weeks or less
2. ___more than 2 weeks but less than one month
3. ___one month but less than 2 months
4. ___2 months but less than 3 months
5. ___3 months but less than 6 months
6. ___6 months but less than 1 year
7. ___1 year but less than 2 years
8. ___2 years or more

G. Supervisor's Position. (check one)

1. ___S-1
2. ___S-2
3. ___S-3
4. ___S-4
5. ___1st sergeant
6. ___Company commander
7. ___Squadron commander
8. ___Platoon leader
9. ___Platoon sergeant
10. ___Other (What?_____)

H. Amount of time you have known your supervisor. (check one)

1. ___2 weeks or less
2. ___more than 2 weeks but less than one month
3. ___one month but less than 2 months
4. ___2 months but less than 3 months
5. ___3 months but less than 6 months
6. ___6 months but less than 1 year
7. ___1 year but less than 2 years
8. ___2 years or more

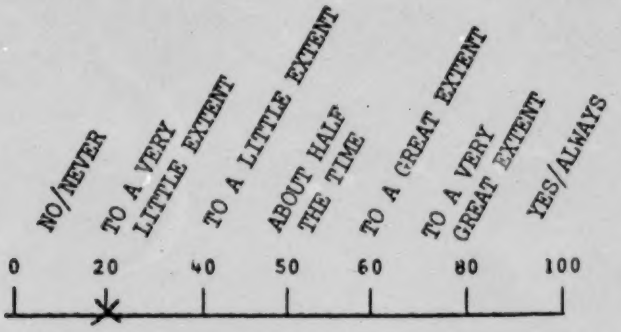
Survey of Opinion

Please answer the following items as accurately as possible. There are no right or wrong answers to this survey--we are only interested in how you see things in your unit. Some of the items ask you about the supervisor you named in the General Data Section. Please keep this individual in mind as you answer the items, ESPECIALLY if you have more than one supervisor.

The items ask you to estimate the amount of time that a particular action is, or is not, done. You are to indicate how often the action is taken by placing an "X" on the line below the phrase which best describes your feelings. Please do not mark between the points.

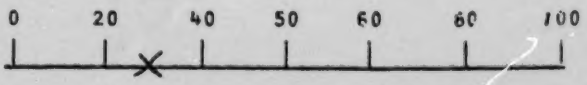
EXAMPLE:

Does your job make good use of your abilities?




If you felt the best answer to this item was "to a very little extent," (20% of the time) you would have placed an X as indicated in the example. NOTE that the X has been properly placed on the point below 20. Do not place an X between the points as shown below:

INCORRECT




Please read each item carefully and then mark the point that comes closest to the way you feel about that item. Please answer all the questions in order.

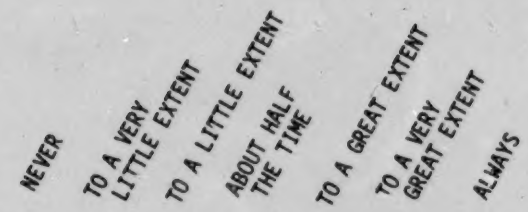
IF YOU ARE AN E1, E2, E3, OR E4, GO TO PAGE 10 AND BEGIN WITH QUESTION 37.

ALL OTHER PERSONNEL PLEASE BEGIN ON THE FOLLOWING PAGE WITH QUESTION 1 AND COMPLETE THE REMAINDER OF THE QUESTIONS (QUESTIONS 1-98).

STOP AND READ

IF YOU ARE AN E-4 OR BELOW, START WITH QUESTION #57.

IF YOU ARE AN E-5 OR ABOVE, START WITH QUESTION #1.




A. WHEN YOU BEGIN A NEW WORK ASSIGNMENT, OR A NEW JOB, DOES YOUR SUPERVISOR:

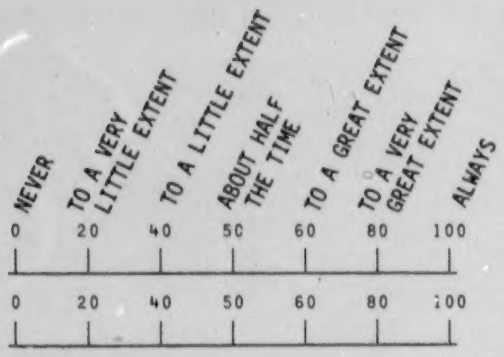
1. Tell you how your work helps meet unit goals--how what <u>you</u> do fits into the "big picture"?
2. Help you to see how to do the work by breaking it up into smaller parts?
3. Help you set up a list of the things you need to do to finish your job?

B. AFTER YOU AND YOUR SUPERVISOR HAVE DECIDED WHAT YOU MUST DO TO MEET YOUR RESPONSIBILITIES, DOES YOUR SUPERVISOR:

4. <u>Check</u> with you often to see how you are doing--to help you before it's too late?
5. <u>Recognize</u> and <u>praise</u> the things that you are doing to meet your over-all responsibilities?
6. <u>Recognize</u> and/or <u>praise</u> your good work <u>right after</u> you do it?
7. Point out <u>exactly</u> what you did that he is praising?
8. <u>Reward</u> you for good work in a way that is fair and meaningful to you?

C. WHEN YOU <u>FAIL</u> TO MEET ONE OF YOUR JOB RESPONSIBILITIES, DOES YOUR SUPERVISOR:

9. Help you set things right without "putting you down"?
10. Recognize and praise what you <u>did do right</u>, even though you did not do your whole job?
11. Sit down with you again and help you understand what you were supposed to do?




C. 12. Help you find out exactly why you were not able to finish your job as planned?

13. Recognize your honesty when you report the true state of affairs?

D. HAVE YOU EVER BEEN COUNSELED BY ANY OF YOUR SUPERIORS IN YOUR UNIT?

14. YES___ NO___

IF NO, PLEASE SKIP TO SECTION E.

I. WHEN YOUR SUPERVISOR CALLS YOU IN FOR A MEETING TO TALK WITH YOU ABOUT A PROBLEM, DOES HE:

15. Create an informal atmosphere--get out from behind his desk and do other things to encourage you to relax?

16. Ask you about your ideas and feelings--tries to understand first rather than to blame or question you?

17. Allow you to get your feelings "off your chest" and out into the open, even when he doesn't agree with you?

18. Check his understanding of what you are saying by restating how you feel back to you?

19. Allow you to finish your statements--does not cut in, or immediately jump to a conclusion about what you are saying?

20. Tolerates silence, especially when you are thinking or are not sure of what to say?

E. DOES YOUR SUPERVISOR EVER HOLD MEETINGS WHERE HE HAS ASKED ONE OR MORE OF HIS MEN TO HELP SOLVE A PROBLEM?

21. YES___ NO___

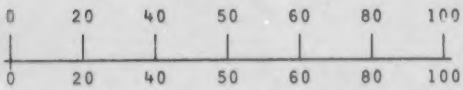
IF NO, PLEASE SKIP TO SECTION F.

| | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| E. I. DURING THE PROBLEM-SOLVING MEETING, DOES YOUR SUPERVISOR: | | | | | | | |
| 22. Set the "ground rules" for the meeting--the amount of time available, and other such things? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| II. WHEN YOUR SUPERVISOR STATES A PROBLEM TO YOU, DOES HE: | | | | | | | |
| 23. Encourage "freedom of thought" by stating problems without giving solutions? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 24. Stress the need to <u>correct</u> a problem situation rather than find who is to blame for the problem? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 25. Point out that this is <u>our</u> problem, and center the discussion on what <u>we</u> can do to improve the situation? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 26. Tell you all the facts, yet is brief and to the point? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 27. Seriously consider your <u>ideas</u> and <u>suggestions</u>, no matter how "far out" he thinks they are? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 28. <u>Delay</u> discussion and criticism of ideas and solutions until all have been allowed to come out? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 29. Keep the meeting centered on problem-solving by <u>not</u> allowing personal attacks on people? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 30. Avoid becoming involved in arguments? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 31. Check for agreement on the problem being discussed before moving on? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 32. Keep everyone on track by summarizing the discussion every now and then? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |

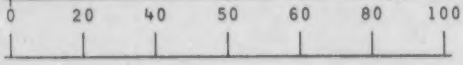
NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS

E.III. WHEN EVERYONE HAS BEEN ALLOWED TO GIVE ALL HIS IDEAS OR SOLUTIONS, DOES YOUR SUPERVISOR:

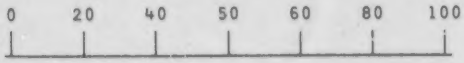
33. Tie everything together by going over the advantages and disadvantages of each idea or solution?



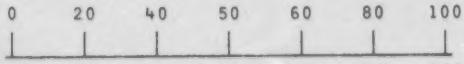

34. Discuss new problems that may be created by each solution?



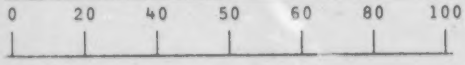

35. Restate disagreement between individuals in terms of what they need to do their jobs?




36. Suggest putting several ideas together, or a trial period for an idea, when two or more individuals cannot agree on a solution to a problem?




37. Get a solution everyone can live with?



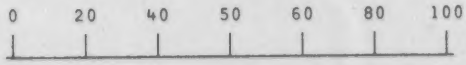

F. DOES YOUR SUPERVISOR INTRODUCE NEW PROCEDURES, POLICIES OR MISSIONS?

38. YES___ NO___

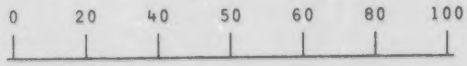
IF NO, PLEASE SKIP TO SECTION G.

I. WHEN YOUR SUPERVISOR INTRODUCES NEW POLICIES, PROCEDURES OR MISSIONS, DOES HE:

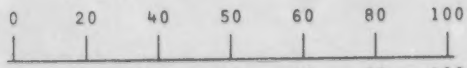
39. Simply state the purpose of the change without trying to sell it as the only way to go?



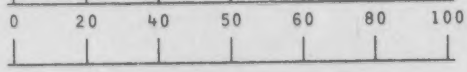

40. Allow you to express your doubts and fears about the proposed change?




41. Suggest that you at least try the new ways, especially when doubts or fears are brought out?




42. Let you decide how to adjust your own work to the new procedures?




G. DOES YOUR SUPERVISOR HOLD MEETINGS WHERE HE AND HIS MEN GET TOGETHER TO SET GROUP GOALS AND OBJECTIVES?

43. YES___ NO___

IF NO, PLEASE SKIP TO SECTION H.

NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS

G. I. WHEN SETTING AND DEFINING GROUP GOALS, DOES YOUR SUPERVISOR:

44. Involve you and his other subordinates in listing all goals of interest to your group? 0 20 40 50 60 80 100

45. Talk about what results are expected rather than telling you how to do the job? 0 20 40 50 60 80 100

46. Rank the goals in order of importance? 0 20 40 50 60 80 100

47. Help subordinates to list the things that must be done to finish each job? 0 20 40 50 60 80 100

48. State what you are to do in terms that are measureable or observable? 0 20 40 50 60 80 100

49. Write down the requirements for each job--to include what is to be done, how well it is to be done, when it is to be done, and who is to do it? 0 20 40 50 60 80 100

H. DOES YOUR SUPERVISOR ASSIGN RESPONSIBILITY FOR MEETING UNIT GOALS?

50. YES___ NO___

IF NO, PLEASE SKIP TO SECTION I.

I. WHEN YOUR SUPERVISOR ASSIGNS RESPONSIBILITY FOR MEETING UNIT GOALS, DOES HE:

51. Involve you and his other subordinates in assigning these responsibilities? 0 20 40 50 60 80 100

52. Try to match responsibilities with your abilities and interests? 0 20 40 50 60 80 100

53. Consider your present work load and responsibilities? 0 20 40 50 60 80 100

II. WHEN YOUR SUPERVISOR ASSIGNS INDIVIDUAL RESPONSIBILITY FOR MEETING GROUP GOALS, DOES HE:

54. Ask you for your views on what you are to do, how well you are to do it, and when you should have it finished? 0 20 40 50 60 80 100

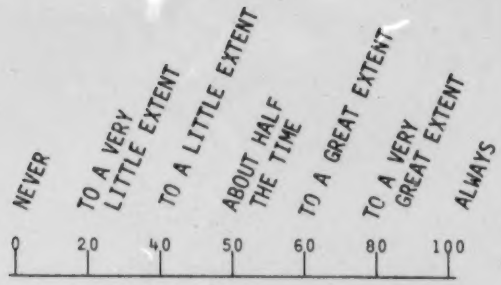
55. See to it that what you are to do is real and reachable? 0 20 40 50 60 80 100

56. Try to insure that you have the means to do what you are supposed to do? 0 20 40 50 60 80 100

I. PLEASE COMPLETE ALL OF THE FOLLOWING QUESTIONS.

| | | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|---|
| 57. | Are you satisfied with your job in this unit? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 58. | Have you considered getting a transfer? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 59. | Do you look forward to coming to work each day? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 60. | Do you feel that your superior has confidence and/or trust in you? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 61. | Do you have confidence and/or trust in your superior? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 62. | Is your superior easy to approach? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 63. | Does your superior treat you like a man? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 64. | Is your superior fair in assigning work duties? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 65. | Do you feel free to discuss your job performance with your superior? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 66. | Do you feel free to discuss your important personal problems with your superior? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 67. | When you talk with your superior, does he pay attention to what you are saying? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 68. | Does your superior know about and understand problems that are faced by his subordinates? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 69. | Do unit policies encourage you to work hard? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 70. | Does your superior encourage you to give your best effort? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 71. | Does your superior recognize/reward a job well done? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 72. | Do your peers (friends) encourage you to give your best effort? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 73. | Does your superior motivate subordinates by use of fear, threats and/or punishment? | 0 | 20 | 40 | 50 | 60 | 80 | 100 |

| | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| | 0 | 20 | 40 | 50 | 60 | 80 | 100 |
| 74. Does your superior set an example by working hard himself? | | | | | | | |
| 75. Does your job make good use of your abilities? | | | | | | | |
| 76. Does your job contribute to your career development? | | | | | | | |
| 77. Does your superior coach you on how to improve your performance? | | | | | | | |
| 78. Does your superior encourage his subordinates to work as a team? | | | | | | | |
| 79. Does your superior place conflicting work demands on you? | | | | | | | |
| 80. In general, how much say or influence do you have on what goes on in your work group? | | | | | | | |
| 81. Is information widely shared in this unit so that those who make decisions actually have all available know-how? | | | | | | | |
| 82. Does information lose accuracy and completeness as it comes down the chain of command? | | | | | | | |
| 83. Is your superior receptive to your ideas and suggestions? | | | | | | | |
| 84. Are you willing to tell your supervisor when you think something will not work, or that he has made a mistake? | | | | | | | |
| 85. Is downward communication accepted by subordinates? | | | | | | | |
| 86. In solving problems, does your immediate superior obtain his subordinates' ideas and make constructive use of them? | | | | | | | |
| 87. Within your unit, is the flow of daily information adequate and accurate? | | | | | | | |
| 88. Are you encouraged to cooperate with other units? | | | | | | | |
| 89. Does this unit have goals and objectives? | | | | | | | |




90. Are the goals and objectives of your unit clear to you?

91. When decisions are made, are the persons involved in carrying out the decision (the "doers") asked for their ideas?

92. Does your superior hold meetings where he and the people who work for him discuss work problems together?

93. Once decisions have been made, are they willingly accepted and implemented?

94. Are there people within your unit that encourage you to do less than your best?

95. Do members of this unit feel committed to achieving the unit's objectives?

96. Do members of this unit cooperate rather than compete in achieving the unit's objectives?

97. After a unit objective has been set and your area of responsibility defined, are you given freedom to decide how to do your work?

98. Are review and control functions concentrated only in the higher levels of this unit?

APPENDIX G

Human Resources Research Organization
Battalion Questionnaire
(UNIT C)

This questionnaire is part of a study to learn more about
dership. Your opinions are needed to help determine whether
sses given as part of this study are effective.

By giving this questionnaire to two similar units (one unit
eives the classes, the other doesn't), we can determine which
nges were produced by the classes.

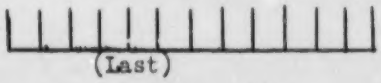
Because your honesty in completing this questionnaire is so
ortant, it is not necessary to write your name on the questionnaire.

Some of these questions refer to your supervisor (the person who
ls you what work to do and checks to see that it gets done). If
have more than one supervisor, tell the individual(s) who gave
this form. Do this NOW.

## General Data

For each of the following items, place a check ( ✓ ) on the line next to the correct answer or fill in the blank.

A. Please print your supervisor's Last Name in the space below.




B. Supervisor's Rank. (check one)

1. ___E1
2. ___E2
3. ___E3
4. ___E4
5. ___E5
6. ___E6
7. ___E7, E8, or E9
8. ___W1, W2, W3, or W4
9. ___O1 or O2
10. ___O3, O4, or O5

C. Your Rank. (check one)

1. ___E1
2. ___E2
3. ___E3
4. ___E4
5. ___E5
6. ___E6
7. ___E7, E8, or E9
8. ___W1, W2, W3, or W4
9. ___O1 or O2
10. ___O3 or O4

D. Which of the following HumRRO Workshops at Bldg 118 have you attended? (you may check more than one item)

1. ____Individual/Group Problem Solving
2. ____Performance Management
3. ____Management by Objectives
4. ____Never attended any of the workshops

E. Unit to which you are assigned. (check one)

1. ___Headquarters Battery, 2/55
2. ___A Battery, 2/55
3. ___B Battery, 2/55
4. ___C Battery, 2/55
5. ___D Battery, 2/55
6. ___Headquarters Battery, 4/1
7. ___A Battery, 4/1
8. ___B Battery, 4/1
9. ___C Battery, 4/1
10. ___D Battery, 4/1
11. ___Other (What?_____)

F. Amount of time you have been in your unit. (check one)

1. ___2 weeks or less
2. ___more than 2 weeks but less than one month
3. ___one month but less than 2 months
4. ___2 months but less than 3 months
5. ___3 months but less than 6 months
6. ___6 months but less than 1 year
7. ___1 year but less than 2 years
8. ___2 years or more

G. Supervisor's Position. (check one)

1.___S-1
2.___S-2
3.___S-3
4.___S-4
5.___1st sergeant
6.___Company commander
7.___Squadron commander
8.___Platoon leader
9.___Platoon sergeant
10.___Other (What?_____)

H. Amount of time you have known your supervisor. (check one)

1.___2 weeks or less
2.___more than 2 weeks but less than one month
3.___one month but less than 2 months
4.___2 months but less than 3 months
5.___3 months but less than 6 months
6.___6 months but less than 1 year
7.___1 year but less than 2 years
8.___2 years or more

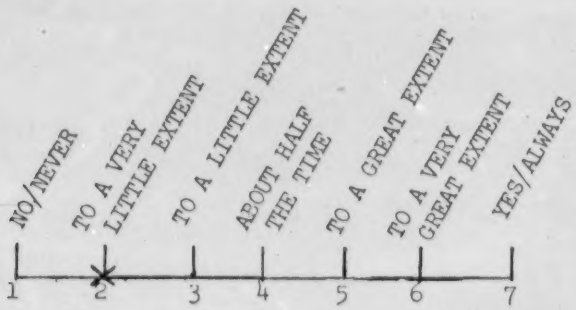
Survey of Opinion

Please answer the following items as accurately as possible. There are no right or wrong answers to this survey--we are only interested in how you see things in your unit. Some of the items ask you about the supervisor you named in the General Data Section. Please keep this individual in mind as you answer the items, ESPECIALLY if you have more than one supervisor.

The items ask you to estimate the amount of time that a particular action is, or is not, done. You are to indicate how often the action is taken by placing an "X" on the line below the phrase which best describes your feelings. Please do not mark between the points.

EXAMPLE:

Does your job make good use of your abilities?




If you felt the best answer to this item was "to a very little extent," you would have placed an X as indicated in the example. NOTE that the X has been properly placed on the point above 2. Do not place an X between the points as shown below:

INCORRECT

Please read each item carefully and then mark the point that comes closest to the way you feel about that item. Please answer all the questions in order.

IF YOU ARE AN E1, E2, E3, OR E4, GO TO PAGE 10 AND BEGIN WITH QUESTION 56.

ALL OTHER PERSONNEL PLEASE BEGIN ON THE FOLLOWING PAGE WITH QUESTION 1 AND COMPLETE THE REMAINDER OF THE QUESTIONS (QUESTIONS 1-96).

STOP AND READ

IF YOU ARE AN E-4 OR BELOW, START WITH QUESTION #56.

IF YOU ARE AN E-5 OR ABOVE, START WITH QUESTION #1.

| | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| **A. WHEN YOU BEGIN A NEW WORK ASSIGNMENT, OR A NEW JOB, DOES YOUR SUPERVISOR:** | | | | | | | |
| 1. Tell you how your work helps meet unit goals--how what you do fits into the "big picture"? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Help you to see how to do the work by breaking it up into smaller parts? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Help you set up a list of the things you need to do to finish your job? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **B. AFTER YOU AND YOUR SUPERVISOR HAVE DECIDED WHAT YOU MUST DO TO MEET YOUR RESPONSIBILITIES, DOES YOUR SUPERVISOR:** | | | | | | | |
| 4. Fail to check with you often enough to be of any real help on what you are doing? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Recognize and praise the individual steps that you take toward getting your whole job done? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Recognize and/or praise your good work right after you do it? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. Point out exactly what you did that he is praising? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Reward you for good work in a way that is fair and means something to you? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **C. IF YOU FAILED TO MEET ONE OF YOUR JOB RESPONSIBILITIES, WOULD YOUR SUPERVISOR:** | | | | | | | |
| 9. Help you set things right without "putting you down"? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Recognize and praise what you did do right, even though you did not do your whole job? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Go over the assignment with you to help you understand it? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | NEVER | TO A VERY LITTLE LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| C. 12. Help you find out exactly why you were not able to finish your job as planned? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Recognize your honesty when you report the true state of affairs? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

D. HAVE YOU EVER BEEN COUNSELED BY ANY OF YOUR SUPERIORS IN YOUR UNIT?

14. YES___ NO___

IF NO, PLEASE SKIP TO SECTION E.

WHEN YOUR SUPERVISOR CALLS YOU IN FOR A MEETING TO TALK WITH YOU ABOUT A PROBLEM, DOES HE:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 15. Create an informal atmosphere--get out from behind his desk and do other things to encourage you to relax? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. Ask you about your ideas and feelings--try to understand first rather than to blame or question you? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. Allow you to get your feelings "off your chest" and out into the open, even when he may not agree with you? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. Check his understanding of what you are saying by restating how you feel? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. Often cut in, or immediately jump to a conclusion about what you are saying rather than allowing you to finish your statements? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. Push you to reply when you are not sure of what to say? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS

E. DOES YOUR SUPERVISOR EVER HOLD MEETINGS WHERE HE HAS ASKED ONE OR MORE OF HIS MEN TO HELP SOLVE A PROBLEM?

21. YES___ NO___

IF NO, PLEASE SKIP TO SECTION F.

I. DURING THE PROBLEM-SOLVING MEETING, DOES YOUR SUPERVISOR:

22. Set the "ground rules" for the meeting--the amount of time available, and other such things? 1 2 3 4 5 6 7

II. WHEN YOUR SUPERVISOR STATES A PROBLEM TO YOU, DOES HE:

23. Discourage "freedom of thought" by stating a problem and then giving his solution? 1 2 3 4 5 6 7

24. Stress the need to find who is to blame for a problem rather than correct the problem situation? 1 2 3 4 5 6 7

25. Point out that this is our problem, and center the discussion on what we can do to improve the situation? 1 2 3 4 5 6 7

26. Tell you all the facts, yet stay brief and to the point? 1 2 3 4 5 6 7

27. Seriously consider your ideas and suggestions, no matter how "far out" he may think they are? 1 2 3 4 5 6 7

28. Delay discussion and criticism of ideas and solutions until all participants have been allowed to suggest solutions? 1 2 3 4 5 6 7

29. Keep the meeting centered on problem-solving by not allowing personal attacks on people? 1 2 3 4 5 6 7

30. Avoid becoming involved in arguments? 1 2 3 4 5 6 7

31. Move on to the next issue before settling the one under discussion? 1 2 3 4 5 6 7

32. Keep everyone on track by summarizing the discussion now and then? 1 2 3 4 5 6 7

| | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| III. AFTER DISCUSSING SEVERAL SOLUTIONS, DOES YOUR SUPERVISOR: | | | | | | | |
| 33. Tie everything together by going over the advantages and disadvantages of each idea or solution? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 34. Discuss new problems that may be created by each solution? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 35. Restate disagreement between individuals in terms of what they need to do their jobs? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 36. Suggest putting several ideas together, or a trial period for an idea, when two or more individuals cannot agree on a solution to a problem? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

F. DOES YOUR SUPERVISOR INTRODUCE NEW PROCEDURES, POLICIES OR MISSIONS?

37, YES___ NO___

IF NO, PLEASE SKIP TO SECTION G.

| | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| WHEN YOUR SUPERVISOR INTRODUCES NEW POLICIES, PROCEDURES OR MISSIONS, DOES HE: | | | | | | | |
| 38. Describe and explain the purpose of the changes? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 39. Try to sell the changes as the only way to go? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 40. Allow you to express your doubts and fears about the proposed changes? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 41. Suggest that you at least try the new ways, especially when doubts or fears are brought out? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 42. Let you decide how to adjust your own work to the new procedures? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

G. DOES YOUR SUPERVISOR HOLD MEETINGS WHERE HE AND HIS MEN GET TOGETHER TO SET GROUP GOALS AND OBJECTIVES?

43. YES___ NO___

IF NO, PLEASE SKIP TO SECTION H.

| | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| WHEN SETTING AND DEFINING GROUP GOALS, DOES YOUR SUPERVISOR: | | | | | | | |
| 44. Involve you and his other subordinates in listing all goals of interest to your group? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| 45. Talk about how to do the job rather than telling you what results are expected? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 46. Rank the goals in order of importance? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 47. Help you to list the things that must be done to finish your job? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 48. State what you are to do in terms of actions that can be counted, measured, or observed? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 49. Make clear the requirements for each job, i.e., what is to be done, how well it is to be done, when it is to be done, and who is to do it? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

DOES YOUR SUPERVISOR ASSIGN RESPONSIBILITY FOR MEETING UNIT GOALS?

50. YES___ NO___

IF NO, PLEASE SKIP TO SECTION I.

I. WHEN YOUR SUPERVISOR ASSIGNS RESPONSIBILITY FOR MEETING UNIT GOALS, DOES HE:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51. Involve you and his other subordinates in assigning these responsibilities? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 52. Try to match responsibilities with your abilities and interests? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 53. Consider your present work load and responsibilities? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

II. WHEN YOUR SUPERVISOR ASSIGNS INDIVIDUAL RESPONSIBILITY FOR MEETING GROUP GOALS, DOES HE:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54. Ask you for your views on what you are to do, how well you are to do it, and when you should have it finished? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 55. Try to insure that you have the means (equipment, tools, time, men, etc.) to do your job? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

I. PLEASE COMPLETE ALL THE FOLLOWING QUESTIONS:

| | | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|---|
| 56. | Are you satisfied with your job in this unit? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 57. | Have you ever considered getting a transfer because you don't like how things are done in your unit? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 58. | Are there things about your unit that make you hate to come to work? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 59. | Do you feel that your superior has confidence in you? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 60. | Do you have confidence in your superior? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 61. | Is your superior difficult to approach? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 62. | Does your superior treat you like an adult? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 63. | Is your supervisor fair in assigning work duties? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 64. | Do you feel free to discuss your job performance with your superior? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 65. | Would you feel free to discuss your important personal problems with your superior? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 66. | When you talk with your superior, do you think he pays attention to what you are saying? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 67. | Do you think your superior knows about and understands problems that are faced by his subordinates? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 68. | Are there things about this unit that make you want to do your best? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 69. | Does your superior encourage you to give your best effort? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 70. | Does your superior let you know that he appreciates a job well done? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 71. | Do your peers (friends) encourage you to give your best effort? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|
| 72.. Does your superior try to make you work harder by using fear, threats and/or punishment? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 73. Does your superior set an example by working hard himself? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 74. Does your job make good use of your abilities? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 75. Do you think that your job contributes to your career development? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 76. Does your superior coach you on how to improve your job performance? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 77. Does your superior encourage you and his other subordinates to work as a team? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 78. Does your superior place conflicting work demands on you? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 79. In general, how much say, or influence, do you think you have on what goes on in your work group? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 80. Is information widely shared in this unit so that those who make decisions actually have all available facts? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 81. Do you think that information loses accuracy and completeness as it comes down through the chain of command? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 82. Does your superior listen to your ideas and suggestions? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 83. Are you willing to tell your supervisor when you think something will not work, or that he has made a mistake? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 84. Do you receive and accept suggestions for improving your duty performance? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 85. In solving work problems, does your supervisor get your ideas and make use of them? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 86. Within your unit, do you think that the flow of daily information is adequate and accurate? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 87. Are you encouraged to cooperate with other work groups within your unit? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | NEVER | TO A VERY LITTLE EXTENT | TO A LITTLE EXTENT | ABOUT HALF THE TIME | TO A GREAT EXTENT | TO A VERY GREAT EXTENT | ALWAYS |
|---|---|---|---|---|---|---|---|---|
| 88. | Does this unit have goals and objectives? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 89. | To what extent are the goals and objectives of your unit clear to you? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 90. | When decisions are made, are the persons involved in carrying out the decisions (the "doers") asked for their ideas? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 91. | Does your superior ever get together with the people who work for him to discuss work problems? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 92. | Do you ever hesitate in carrying out an order because you think it might be changed? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 93. | Are there people within your unit that encourage you to do <u>less</u> than your best? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 94. | Do you feel commited to helping achieve the unit's objectives? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 95. | Do members of this unit compete rather than cooperate in achieving the unit's objectives? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 96. | After a unit objective has been set and you know what you are supposed to do, are you given freedom to decide how to do your work? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

APPENDIX H

SCALING

## INTRODUCTION

The findings presented in the body of this report are dependent upon the accuracy with which leadership behavior and organization climate are measured. This appendix analyzes the validity of these instruments and compares the dimensions they measure with previous research.

Due to the technical nature of the discussion, general readers may wish to skip this section. It may suffice for these readers to say that the instrumentation's validity has been investigated and that scales used in the body of the report possess stability.

## INSTRUMENT CONSTRUCTION[1/]

The instrumentation developed for use in Project SKIM was designed to fit a theory of organizational intervention and change similar to that presented in Figure H-1.

According to this approach, training in more effective leadership/management skills should result in a change in the way Army leaders handle work problems and work-related interpersonal problems. The change in behavior and attitude on the part of leaders should be reciprocated by a change in the actions and attitudes of subordinate personnel--first toward their leaders and then toward the work situation and the organization in general. The final outcome of this cycle should be higher productivity and more efficient operation on the part of both leaders and subordinates.

### The Organizational Climate Survey (OCS)

The first survey instrument to be developed was the Organizational Climate Survey (OCS), which was designed to assess the attitudes of subordinate personnel toward their leaders, work situation, and organization (unit). The construction of the OCS was carried out in four phases:

1/ This section, with minor additions, was prepared by John K. Hawley who, as the USARI Field Unit Research Officer, constructed the instrumentation.

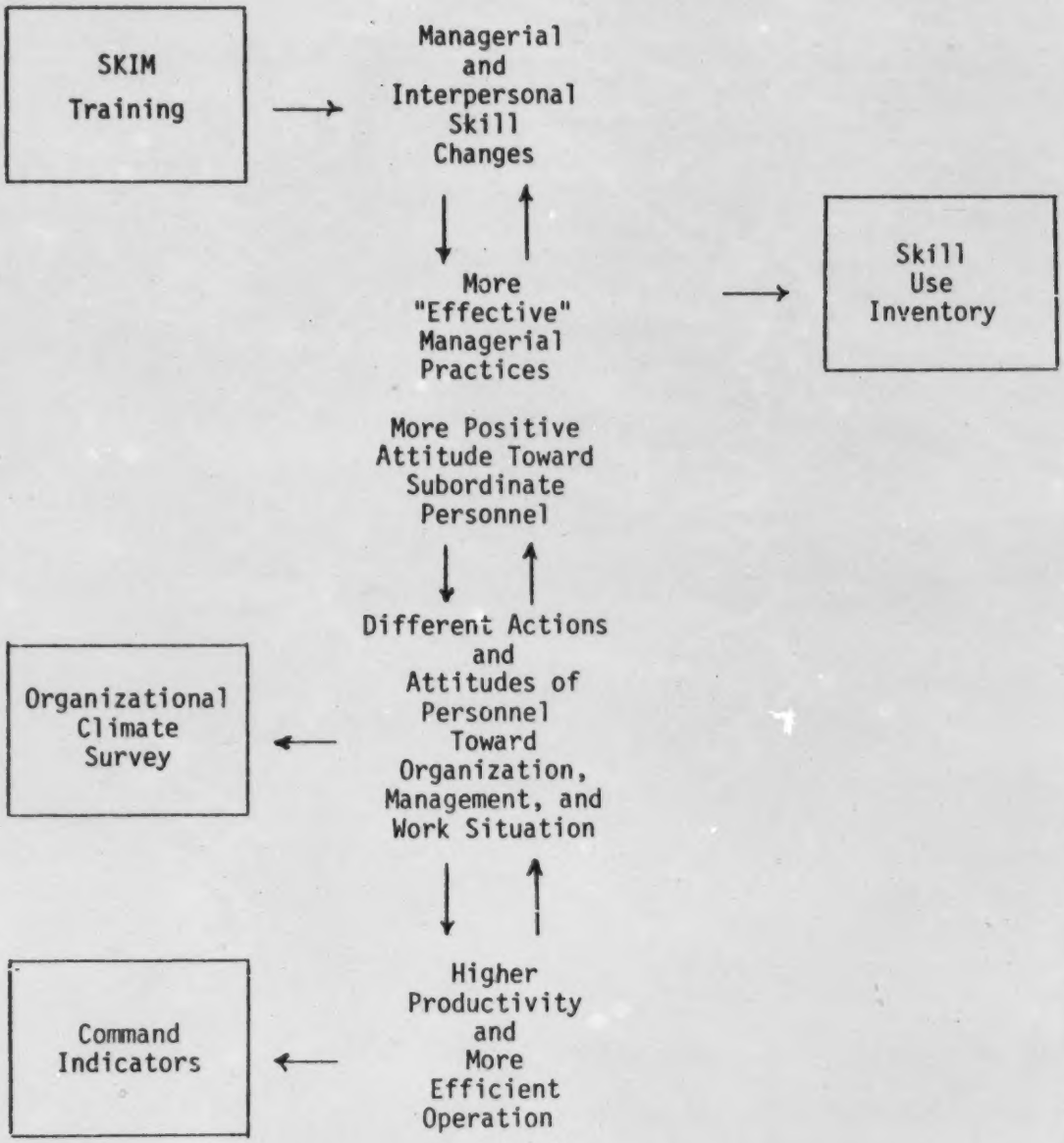



Figure H-1. Theory of Organizational Intervention and Change

1. Isolation of areas of organizational functioning relevant to SKIM training.

2. Selection of items appropriate to those areas of organizational functioning.

3. Tailoring of items to fit the Army environment.

4. Field testing of several variations of the instrument.

The areas of organizational functioning which were selected as a starting point in developing the SKIM OCS instrument were those dimensions isolated in a cluster analysis of the University of Michigan's Survey of Organizations, p. 3 (1). The list of possible areas was analyzed as to its applicability to SKIM, and those dimensions which were deemed not directly relevant to SKIM training were discarded. This resulted in eight major areas of organizational functioning. These were:

1. Managerial Support.

2. Managerial Goal Emphasis.

3. Managerial Work Facilitation.

4. Managerial Interaction Facilitation.

5. Peer Support.

6. Peer Goal Emphasis.

7. Peer Work Facilitation.

8. Peer Interaction Facilitation.

After the relevant areas had been determined, the second step was the selection of a series of items to assess attitudes along those dimensions. This was accomplished by selecting those items from the Survey of Organizations (1) which accompanied the relevant dimensions, and then choosing other climate survey instruments such as the Survey Feedback Questionnaire (2) developed by the US Army Research Institute for the Behavioral and Social Sciences for the US Army, Europe.

Once this large pool of items had been gathered, they were subjected to an intensive intra-office scrutiny to select those items which most closely seemed to query areas relevant to the SKIM

training. This scrutiny was the beginning of the third phase of construction--tailoring items for the Army environment. Following selection of the items, the retained items were re-written to make them relevant to the Army environment. This involved such issues as correct terminology and reading grade level.

The final phase of construction was the field testing of several versions of the OCS instrument. Issues relevant to this phase were:

1. Length of time to administer.
2. Optimal answering scheme.
3. Reception.
4. Reliability.
5. Validity.

These issues are addressed in more detail elsewhere, but are included here to clarify the steps taken in constructing the SKIM OCS instrument.

The resultant product was a 41-item OCS instrument, using a 7-point Likert scale answering scheme, which took about 15 minutes to administer. This instrument was not a "re-invention of the wheel," so to speak--but rather was a variant of other more proven instruments modified to suit the peculiarities of the environment in which it was to be used.

## The Skill Use Inventory (SUI)

The second instrument developed locally was the Skill Use Inventory (SUI). The purpose of the SUI was to assess whether or not subordinate personnel perceived changes in actual leader behavior after the termination of SKIM training. Admittedly, asking subordinate personnel about the behavior of their supervisors was subject to many criticisms, though substantial research with similar instruments indicates subordinate ratings are valid indicators of supervisory behavior (3). The most reliable method of measuring skill usage among supervisor personnel would have been to have several trained raters observe actual behavior. However, such an undertaking would have required more time and resources than were available. Also, having HumRRO/ARI Field Unit personnel so constantly in contact with managerial personnel would have provided a very obtrusive

measure, and could actually have interfered with the operation of the units being assessed. Thus, the SUI resulted from the need to measure managerial skill usage within the limits of our available resources, while still being as unobtrusive as possible.

The actual construction of the SUI instrument was more difficult than the OCS instrument in that there were no similar instruments to use as a basis or guide. However, the steps used in constructing the SUI closely parallelled the steps followed in constructing the OCS. The steps were:

1. Cataloging managerial behaviors being taught in Project SKIM.

2. Selecting those behaviors essential to the skills being taught.

3. Office and field testing the resulting trial skill use inventories.

The first step--cataloging the skills--was done to provide face validity for the instrument; that is, to list the skills that were supposedly being taught. The second step was to cast the skills into a "Critical Incident" format. This was done to "set the stage," so to speak, for the responding of subordinate personnel. The rationale for this was that if we provided the subordinate with a specific setting, and then asked about his supervisor's actions in that setting, he would recall a similar incident and respond with what his supervisor had actually done.

The last step of construction, again, involved intensive scrutiny of the items--first, within the HumRRO office, and then controlled testing of various forms of the instrument within small groups of test subjects similar in composition to those who would receive testing en masse. The result was a 56-item instrument, using a 7-point anchored Likert response scale, which took the average subject about 15 minutes to complete.

The final instrument package for Project SKIM was, thus, a 98-item OCS/SUI instrument which took about 30 minutes to complete. The OCS portion was a variant of other climate surveys and was designed to measure subordinates' attitudes toward their supervisors, work situations, and their unit in general. The SUI portion was an attempt to unobtrusively and economically measure usage of critical SKIM skills within the supervisory group. Taken together, the instrument package was designed to provide information on a wide variety of areas of organizational functioning which could be

affected by the SKIM training. The package was also designed to provide information of a supportive and overlapping nature. The information was designed to be supportive in that the information contained in one instrument could be used to interpret or clarify the information found in the other, and vice versa. The instruments were also designed to be overlapping in that, according to the underlying theory of organizational change, changes in actions and attitudes of subordinate personnel toward supervisors had to be accompanied by changes in skill usage on the part of management, if the changes were to be attributed to the training. Changes in climate or productivity, which were not accompanied by changes in managerial behavior, could not be attributed to the SKIM training. Of course, the supportive and overlapping aspects presuppose the validity and reliability of the instrumentation, which was a major reason for the intensive pretesting.

FORMS

Two different forms of the instruments were used. The first form, administered in Unit B, consisted of a very homogeneous set of items ($\bar{r}$ = .60 for the SUI; $\bar{r}$ = .41 for the OCS). To reduce the possible contaminating effects of response bias, several items from this form were rewritten and/or reversed. This revision was then administered to Unit C. The result was a reduction in the average interitem correlation of the SUI to .46 and the OCS to .38, indicating the revised form contained less response bias. Since the equivalency of the two questionnaires was unknown, the forms continued to be used in their respective units to insure changes would be measured from the same baseline.

SCORING

Raw data were punched directly onto IBM cards. Item reversals and automatic scoring were performed during program execution.

Items on the first 56 questions (SUI) were automatically scored "1" if branching questions 14, 21, 38 (37 on the second form), 43, or 50 were answered NO. The presumption being that if a supervisor never created a situation in which these skills could be used, he never used the skills.

## ANALYSES

All computations were performed on an IBM 360-60 (later updated to a 360-65) using single precision data storage. Analyses were performed using Veldman's statistical package (4) for the behavioral sciences, the BMD statistical package, and a modified missing data correlation program supplied by Dr. Diane Fairbank, University of Texas at El Paso.

## SCALE CONSTRUCTION

### Method

The principle axes method of factor analysis was performed on each administration of the instruments and varimax rotations of all factors exceeding an eiginvalue of 1.0 compared (4). This procedure determined the scale structure for items over administrations.

### Validity

The purpose of a varimax rotation is to produce sets of items maximally correlated within sets and minimally correlated between sets. Consequently, it may not be argued that the validity of the resulting scales is a function of their intercorrelations. What may be argued is that the configuration of these scales should remain stable over time.

This may be accomplished by comparing the factor structure and interitem relationships from one administration to the next. It is assumed random error variance will be distributed randomly among the scales through administrations. Consequently, the stability of the scales and items from one administration to the next becomes an inverse indicator of the amount of error variance they contain.

## DISCUSSION

### Results

Tables H-1 and H-3 present the intercorrelation of factor loadings for each administration in the two units. Consistency is measured by the cosine of the factor vector from one administration to the next (4, pp. 236-242).

Factors I, II, III, IV, V, VI, and IX in Unit B and Factors II, III, IV, V, VI, VII, and XIII in Unit C possess a high degree of consistency ($r > .9$); Factors XIII, X, and XI in Unit B and Factors I, IX, X, XI, and XII in Unit B are less stable ($.65 < r < .9$); Factor VIII in Unit B appears to have little or no consistency (Tables H-1 and H-3).

## Selection of Scales and Items

Tables H-1 through H-4 describe the stability of the factors and items in the instruments. Table H-5 gives the items with high loadings on each varimax rotated factor. Consistent factors with consistent items may be combined to form scales. Of course, the particular items selected and the amount of instability tolerated will depend upon the study to be conducted.

## Comparison of OCS Scales with Dimensions Derived by SRC (1)

In Unit B, Factor I appears to encompass SRC's (1) managerial and group goals emphasis and Factor VIII, managerial support. Factors VII, IX, and XIII in Unit C correspond to SRC's (1) dimensions of managerial support, managerial work facilitation, managerial interaction facilitation, and peer work facilitation. However, there is no one-to-one correspondence between these factors and SRC's dimensions in this Unit.

Thus, it may be concluded that the scales developed in this study only partly replicate SRC's (1). The generally high overall correlation between OCS items, however, would lend itself to alternate scale decomposition using other scaling procedures (e.g., quatimax or oblique rotations, cluster analyses, three-mode factor analysis). It is, therefore, possible that the scales described by SRC (1) could be derived from the data by making assumptions about item composition different from a varimax rotation of a principle axis solution to factor analysis.

Table H-1

Consistency[1] of Factor Structure for Two Administrations of the HumRRO Battalion Questionnaire in Unit B

| Factor | I | II | III | IV | V | VI | VII | VIII | IX | X | XI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | .98 | -.03 | -.00 | .02 | -.02 | .03 | -.12 | -.01 | .06 | -.14 | .02 |
| II | .02 | 1.00 | .00 | -.03 | .01 | -.01 | -.05 | -.01 | .04 | -.03 | .02 |
| III | -.01 | -.01 | 1.00 | -.01 | -.02 | .04 | -.03 | .00 | .01 | -.04 | -.02 |
| IV | .02 | .03 | -.02 | -.96 | -.05 | .09 | .06 | -.01 | .05 | .06 | -.03 |
| V | .01 | -.01 | .02 | .00 | .99 | .10 | .01 | -.01 | -.07 | -.00 | -.03 |
| VI | .04 | -.00 | .04 | .02 | .04 | -.92 | .12 | -.06 | .04 | .14 | .09 |
| VII | -.11 | -.04 | -.02 | -.02 | -.02 | -.07 | -.95 | .08 | .14 | .21 | .03 |
| VIII | .07 | .03 | .01 | .06 | .00 | .01 | .18 | .85 | .15 | .36 | -.31 |
| IX | -.10 | -.05 | -.02 | .00 | .08 | -.01 | .08 | .01 | .92 | -.31 | .12 |
| X | .12 | .01 | .05 | -.02 | .06 | .11 | .13 | -.20 | .17 | .75 | .48 |
| XI | -.05 | -.01 | .00 | -.06 | .02 | -.01 | -.03 | .48 | -.22 | -.31 | .79 |

[1]Consistency is measured by the cosine of the factor vector from one administration to the next. This measure is equivalent to a correlation coefficient and its magnitude may be similarly interpreted. Due to the rotational properties of a factor structure, the sign of the relationship should be ignored.

Table H-2

Consistency[1] of Item Structure for Two Administrations of the HumRRO Battalion Questionnaire in Unit B

| Item | Consistency | Item | Consistency | Item | Consistency | Item | Consistency |
|---|---|---|---|---|---|---|---|
| 1 | .97 | 26 | .98 | 51 | .97 | 76 | .93 |
| 2 | .61 | 27 | 1.00 | 52 | .96 | 77 | .88 |
| 3 | .91 | 28 | .98 | 53 | .94 | 78 | .91 |
| 4 | .90 | 29 | .99 | 54 | .95 | 79 | .94 |
| 5 | .97 | 30 | .99 | 55 | .94 | 80 | .94 |
| 6 | .98 | 31 | .99 | 56 | .96 | 81 | .96 |
| 7 | .94 | 32 | .99 | 57 | .86 | 82 | .82 |
| 8 | .94 | 33 | .99 | 58 | .86 | 83 | .96 |
| 9 | .93 | 34 | 1.00 | 59 | .86 | 84 | .92 |
| 10 | .92 | 35 | .99 | 60 | .97 | 85 | .91 |
| 11 | .89 | 36 | .98 | 61 | .97 | 86 | .98 |
| 12 | .93 | 37 | .99 | 62 | .97 | 87 | .94 |
| 13 | .96 | 38 | .89 | 63 | .98 | 88 | .83 |
| 14 | .92 | 39 | .92 | 64 | .97 | 89 | .96 |
| 15 | .98 | 40 | .96 | 65 | .97 | 90 | .96 |
| 16 | .98 | 41 | .96 | 66 | .96 | 91 | .91 |
| 17 | 1.00 | 42 | .94 | 67 | .98 | 92 | .92 |
| 18 | .99 | 43 | .86 | 68 | .96 | 93 | .97 |
| 19 | .98 | 44 | .97 | 69 | .82 | 94 | .43 |
| 20 | .99 | 45 | .98 | 70 | .76 | 95 | .94 |
| 21 | .96 | 46 | .98 | 71 | .95 | 96 | .89 |
| 22 | .90 | 47 | .98 | 72 | .94 | 97 | .97 |
| 23 | .99 | 48 | .99 | 73 | .89 | 98 | .75 |
| 24 | .99 | 49 | .95 | 74 | .95 | | |
| 25 | .98 | 50 | .79 | 75 | .91 | | |

[1]Consistency is measured by the cosine of the item vector from one administration to the next. This measure is equivalent to a correlation coefficient and its magnitude may be similarly interpreted.

## Table H-3

## Consistency[1] of Factor Structure for Three Administrations of the HumRRO Battalion Questionnaire in Unit C

| Factor | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | XIII |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | .82[2] | -.01 | .03 | -.09 | -.01 | -.11 | .09 | -.36 | .39 | .20 | .18 | -.24 | * |
| | .71[3] | -.01 | -.01 | .04 | .05 | .10 | -.12 | .47 | -.36 | -.18 | -.11 | .25 | * |
| | .87[4] | -.01 | .01 | -.03 | .03 | -.05 | .07 | -.05 | .09 | -.18 | -.19 | .08 | .10 |
| II | -.08 | .96 | -.06 | .05 | -.06 | .06 | -.03 | .02 | -.09 | -.07 | -.05 | -.14 | * |
| | .01 | 1.00 | .05 | .00 | .02 | .00 | -.02 | .01 | -.02 | .01 | .02 | .04 | * |
| | .02 | .99 | .00 | .00 | .02 | -.03 | .01 | -.09 | -.01 | -.02 | .00 | .06 | -.04 |
| III | -.05 | -.04 | .95 | .01 | -.01 | .04 | -.01 | .00 | .01 | -.02 | -.05 | -.05 | * |
| | -.01 | .03 | -1.00 | .01 | -.00 | -.01 | .01 | -.02 | -.02 | .00 | .01 | .00 | * |
| | .01 | .01 | -1.00 | .01 | .01 | -.02 | .01 | .04 | -.03 | -.04 | .01 | .02 | -.01 |
| IV | -.11 | -.07 | -.15 | -.88 | -.05 | .12 | -.07 | .17 | -.18 | -.12 | -.13 | -.16 | * |
| | .03 | .00 | .00 | 1.00 | .01 | .01 | .04 | -.01 | -.03 | -.03 | .03 | .12 | * |
| | .08 | -.03 | .00 | .95 | -.02 | -.11 | -.01 | -.09 | -.02 | -.05 | .14 | .21 | -.04 |
| V | -.05 | .01 | -.03 | .02 | .98 | -.01 | .01 | -.02 | .00 | -.03 | .02 | -.05 | * |
| | .00 | .02 | .01 | -.04 | .99 | -.02 | -.01 | .09 | .04 | -.14 | -.04 | .05 | * |
| | -.04 | .01 | .01 | -.04 | -.96 | .02 | .01 | -.00 | .14 | -.12 | .11 | .00 | -.01 |
| VI | .01 | .01 | .02 | -.01 | .03 | .96 | .02 | -.09 | 12 | .12 | 05 | -.01 | * |
| | .06 | .01 | .01 | -.01 | .05 | -.96 | -.02 | .03 | -.04 | -.02 | -.01 | .01 | * |
| | -.12 | .01 | -.04 | -.04 | -.05 | -.95 | -.05 | .12 | -.06 | .10 | -.09 | -.24 | -.02 |
| VII | -.01 | .00 | .03 | .04 | .03 | -.04 | .95 | -.09 | -.09 | .27 | -.16 | .10 | * |
| | .09 | .02 | .01 | .03 | .02 | .01 | .98 | .07 | -.06 | .05 | .03 | .12 | * |
| | -.13 | .00 | .04 | .02 | .02 | -.01 | .92 | .17 | -.12 | .14 | .32 | -.01 | .11 |
| VIII | -.19 | .06 | .11 | -.07 | .21 | -.06 | -.02 | .04 | .14 | .14 | .13 | .19 | * |
| | .05 | -.03 | -.01 | -.02 | .10 | .07 | .18 | .09 | .43 | .10 | -.65 | -.19 | * |
| | .37 | .13 | -.19 | .17 | -.19 | .17 | .13 | .70 | -.40 | -.24 | -.45 | .14 | -.02 |
| IX | -.07 | .05 | -.02 | -.02 | -.02 | .02 | .15 | .50 | .80 | -.19 | -.08 | .18 | * |
| | -.09 | .00 | -.02 | -.05 | .07 | -.03 | -.08 | .56 | .65 | .03 | .17 | .35 | * |
| | -.02 | .02 | .01 | .04 | .14 | -.05 | .10 | .35 | .87 | -.18 | -.20 | .08 | -.05 |
| X | .13 | .04 | .09 | .00 | .05 | -.05 | -.12 | .49 | -.02 | .85 | .00 | -.15 | * |
| | .05 | -.01 | .00 | -.03 | -.12 | .00 | -.04 | .25 | -.14 | .86 | .24 | -.19 | * |
| | .23 | .03 | -.06 | -.02 | -.11 | .01 | -.12 | .22 | .11 | .85 | .04 | .37 | .09 |
| XI | -.07 | -.01 | .03 | -.02 | .02 | -.05 | -.22 | -.32 | .19 | .12 | .89 | -.03 | * |
| | -.04 | -.01 | -.00 | -.02 | .00 | -.04 | -.11 | -.03 | -.20 | .29 | -.66 | .14 | * |
| | -.18 | .03 | .08 | -.06 | .12 | .01 | -.31 | .50 | -.02 | -.11 | .78 | -.12 | -.07 |
| XII | .54 | .28 | .54 | -.53 | .22 | -.33 | .20 | -.33 | .28 | .39 | .34 | .71 | * |
| | -.09 | -.01 | -.02 | -.04 | .02 | -.02 | .04 | .46 | -.08 | -.26 | -.02 | .80 | * |
| | -.30 | .01 | .06 | .26 | -.02 | .24 | -.12 | .14 | .03 | .30 | -.21 | -.72 | .30 |
| XIII | .65 | .01 | .05 | .10 | .06 | .13 | .01 | .30 | -.32 | -.10 | -.25 | .57 | * |
| | .68 | .00 | .01 | .01 | .05 | .05 | .02 | .40 | -.43 | -.10 | -.11 | .29 | * |
| | .08 | -.02 | .00 | .04 | -.01 | .11 | .07 | .14 | -.07 | .18 | -.19 | -.13 | -.91 |

[1] Consistency is measured by the cosine of the factor vector from one administration to the next. This measure is equivalent to a correlation coefficient and its magnitude may be similarly interpreted.

[2] Comparison of factor axes of 2d preadministration to 1st postadministration; axes inverted.

[3] Comparison of factor axes of 2d preadministration to 2d postadministration, axes inverted.

[4] Comparison of factor axes of 1st postadministration to 2d postadministration.

* Only 12 factors were extracted for comparison.

Table H-4

## Consistency[1] of Factor Structure for Three Administrations of the HumRRO Battalion Questionnaire In Unit C

| Item | Consistency | | | Item | Consistency | | | Item | Consistency | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A[2] | B[3] | C[4] | | A[2] | B[3] | C[4] | | A[2] | B[3] | C[4] |
| 1 | 1.00 | .96 | .91 | 33 | .95 | .99 | .92 | 65 | 1.00 | .90 | .87 |
| 2 | 1.00 | .98 | .95 | 34 | 1.00 | .98 | .95 | 66 | 1.00 | .97 | .91 |
| 3 | 1.00 | .98 | .97 | 35 | 1.00 | .99 | .95 | 67 | 1.00 | .95 | .90 |
| 4 | .91 | .78 | .66 | 36 | .96 | .98 | .93 | 68 | .80 | .98 | .92 |
| 5 | .96 | .94 | .90 | 37 | 1.00 | .99 | .58 | 69 | .71 | .93 | .95 |
| 6 | .91 | .94 | .88 | 38 | .88 | .99 | .95 | 70 | .75 | .96 | 1.00 |
| 7 | .89 | .95 | .89 | 39 | .81 | .95 | .94 | 71 | 1.00 | .91 | .93 |
| 8 | .82 | .95 | 1.00 | 40 | .82 | .98 | .97 | 72 | 1.00 | .92 | .90 |
| 9 | .80 | .88 | 1.00 | 41 | .77 | .99 | .95 | 73 | .76 | .97 | .94 |
| 10 | .92 | .92 | .57 | 42 | .84 | .99 | .89 | 74 | 1.00 | .93 | 1.00 |
| 11 | .88 | .94 | .72 | 43 | 1.00 | .99 | .70 | 75 | 1.00 | .92 | .99 |
| 12 | .84 | .94 | .96 | 44 | .80 | .90 | .98 | 76 | 1.00 | .95 | .93 |
| 13 | .84 | .93 | .63 | 45 | .88 | .91 | .92 | 77 | 1.00 | .96 | .94 |
| 14 | .82 | .98 | .65 | 46 | .78 | .98 | .95 | 78 | .94 | .93 | .86 |
| 15 | .94 | .98 | .94 | 47 | .84 | .98 | .86 | 79 | 1.00 | .80 | .93 |
| 16 | .88 | .98 | .96 | 48 | .76 | .99 | .84 | 80 | .83 | .91 | .94 |
| 17 | .94 | .98 | .95 | 49 | .72 | .99 | .84 | 81 | .90 | .89 | .80 |
| 18 | .90 | .98 | .93 | 50 | 1.00 | .96 | .98 | 82 | 1.00 | .96 | .96 |
| 19 | .86 | .96 | .99 | 51 | .96 | .97 | .97 | 83 | 1.00 | .91 | .98 |
| 20 | .75 | .99 | .89 | 52 | .95 | .97 | .96 | 84 | .84 | .85 | .84 |
| 21 | 1.00 | 1.00 | .43 | 53 | .96 | .96 | .97 | 85 | 1.00 | .94 | .99 |
| 22 | .99 | .94 | .96 | 54 | 1.00 | .97 | .98 | 86 | .59 | .90 | .94 |
| 23 | 1.00 | .96 | .89 | 55 | .99 | .97 | .98 | 87 | 1.00 | .96 | .99 |
| 24 | .85 | .94 | 1.00 | 56 | 1.00 | .92 | .99 | 88 | .95 | .89 | .94 |
| 25 | .81 | .99 | .93 | 57 | .83 | .74 | .79 | 89 | 1.00 | .95 | .89 |
| 26 | .80 | .99 | .96 | 58 | .84 | .92 | .90 | 90 | 1.00 | .96 | .93 |
| 27 | .89 | 1.00 | 1.00 | 59 | .92 | .94 | .91 | 91 | 1.00 | .97 | .95 |
| 28 | 1.00 | .98 | .90 | 60 | .92 | .94 | .94 | 92 | 1.00 | .88 | .84 |
| 29 | .69 | .99 | 1.00 | 61 | .89 | .84 | .86 | 93 | .87 | .76 | .79 |
| 30 | .85 | .98 | .99 | 62 | 1.00 | .96 | .92 | 94 | .92 | .95 | .92 |
| 31 | .91 | .98 | 1.00 | 63 | .68 | .96 | .97 | 95 | .74 | .83 | .80 |
| 32 | .95 | .98 | 1.00 | 64 | 1.00 | .95 | .96 | 96 | 1.00 | .96 | .97 |

[1]Consistency is measured by the cosine of the item vector from one administration to the next. The measure is equivalent to a correlation coefficient and its magnitude may be similarly interpreted.

[2]2d preadministration to 1st postadministration.

[3]2d preadministration to 2d postadministration.

[4]1st postadministration to 2d postadministration.

## Table H-5

## Items With High Factor Loadings

| Factor | Items - UNIT B[1] |
|---|---|
| I | 87, 88, 89, 90, 95, 96 |
| II | 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37 |
| III | 14, 15, 16, 17, 18, 19, 20 |
| IV | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12 |
| V | 51, 52, 53, 54, 55, 56 |
| VI | 43, 44, 45, 46, 47, 48, 49 |
| VII | 79, 82 |
| VIII | 60, 61, 62, 63, 65, 65, 66, 67, 68 |
| IX | 38, 39, 40, 41, 42 |
| X | NONE |
| XI | 58 |

| Factor | Items - UNIT C[2] |
|---|---|
| I | 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13 |
| II | 14, 15, 16, 17, 18, 19, 20 |
| III | 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36 |
| IV | 37, 38, 39, 40, 41, 42 |
| V | 43, 44, 45, 46, 47, 48, 49 |
| VI | 50, 51, 52, 53, 54, 55 |
| VII | 80, 88, 89 |
| VIII | 93 |
| IX | 72, 78, 92, 95 |
| X | 83, 84 |
| XI | 56, 57, 74, 75 |
| XII | NONE |
| XIII | 59, 60, 62, 63, 64, 65, 66, 67, 70, 73, 77, 82, 85 |

[1]The complete questionnaire for UNIT B may be found in Appendix E.

[2]The complete questionnaire for UNIT C may be found in Appendix F.

REFERENCES


1. Taylor, J. C. and Bowers, D. G. Survey of Organizationa. Ann Arbor, Michigan, University of Michigan, Institute for Social Research, 1972.

2. Feedback Survey Questionnaire (Cambridge Research Group for US Army, Europe.), Unpublished Report, n.d.

3. Kerr, S. and Schriesheim, C. "Consideration, Initiating Structure, and Organizational Criteria--An Update of Korman's 1966 Review." Personnel Psychology, 27, 1974, 555-568.

4. Veldman, D. J. FORTRAN Programming for the Behavioral Sciences. New York, Holt, Rinehart and Winston, 1967.

# APPENDIX I

## FEEDBACK SYSTEM[1]

### RATIONALE

Research projects similar to SKIM have found survey feedback to be a critical element in increasing unit performance.[2] However, since SKIM was designed to test the effects of a training-intensive intervention, the research plan called for presenting survey feedback to both experimental and control units. This made possible comparisons between SKIM training combined with survey feedback and survey feedback alone. Thus, any differences obtained would be due to training, assuming insignificant interaction effects between training and survey feedback.

### DESIGN

The feedback system was designed on the premise that feedback was most useful when it was: (a) introduced individually, (b) easily assimilated, and (c) client oriented. Individual feedback was given to insure privacy and to insure the recipient's full understanding of the data. Feedback was given one portion at a time so that respondents would not be overloaded and thus unable to interpret the data. Conclusions based upon the feedback were left entirely to the recipient since he alone was aware of the circumstances which made utilization of SKIM skills appropriate or inappropriate.

### IMPLEMENTATION

Feedback was presented in a structured one-to-one interview (PROTOCOL, p. I-2). The supervisor to whom feedback was given received a brief description of SKIM, detailed interpretation of the feedback, the opportunity to comment about the feedback and the option to receive additional feedback. He was asked what actions, if any, he intended to take based upon the information and what conclusions he drew. Further feedback sessions were scheduled if desired.

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[1] This appendix was written by Nadean R. Jones and Christine K. Fischer.

[2] Bowers, D. G. "OD Techniques and Their Results," in "23 Organizations: The Michigan, ICL Study," Journal of Applied Behavioral Science, 1973, 9(1), 21-43.

PROTOCOL

INDIVIDUAL FEEDBACK
ON UTILIZATION OF SKIM SKILLS

I. Present the supervisor his feedback sheet and explain that the data is based on his immediate subordinate's perception of how often he uses certain leadership skills asked about in the questionnaire.

II. Explain the feedback sheet (section-by-section).

A. Date(s) when surveys, from which feedback was taken, were administered.

B. Explain that number of responses refers to the number of immediate subordinates responding to the questionnaire naming the interviewee as their supervisor.

C. Point out the seven categories going from NEVER to ALWAYS. Explain that these are the seven ways in which questions about skill use can be answered.

D. Point out overall score defining it as how all the interviewees' immediate subordinates rated him as to his frequency of use of the skills asked about in the questionnaire.

E. Point out remaining dimensions, explaining that each dimension is defined as a question grouping within the questionnaire. [At this point, if the interviewee asks what questions deal with each dimension, show him the questions involved.]

F. Next, one-by-one, define each dimension briefly falling back on question groupings to clarify further, if necessary.

III. Allow interviewee to go over his feedback for a few minutes. Encourage comments or discussion.

IV. Ask interviewee if he has found the feedback useful and find out if he would be interested in additional feedback. Next, ask if he would be interested in receiving other kinds of feedback. [at this point, clarify by showing him the list of other kinds of feedback soon to be available.



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PREPARATION

Computer printouts of each supervisor's score on his utilization of SKIM-taught skills were transferred to feedback sheets. Contact was then made with supervisors on whom there was sufficient data. Appointments were arranged for those who indicated that they desired feedback. Supervisors whose data was incomplete[1] were contacted and offered a special, one-time administration of the questionnaire. Those agreeing to this arrangement set up administration dates for their subordinates.

Due to the large amount of data, processing each individual's scores took 45 minutes. Contacting a supervisor for an appointment required about 20 minutes, appointments lasted 35 minutes, and special administrations took 25 minutes to complete. Thus, it took from 1 hour and 35 minutes to 2 hours to prepare and conduct one interview.

PROGRESS TO DATE

Feedback was initiated in Unit C and its control on 1 March 1975. Although both units were offered feedback at approximately the same time, to date, leaders in the experimental unit have received substantially more feedback than those in the control unit (12 vs. 2 interviews[2]). This occurrence is a result both of apparent apathy among control unit leaders and unanticipated absences among research staff who were tasked with feedback duties.

Due to intensive field commitments, only preliminary contacts were made with Unit B.

RESULTS TO DATE

During the interview, the interviewer asked these questions: (Each is followed by the results.)

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[1] It was assumed that higher ranking leaders would be present for administrations of the questionnaires. However, many were absent, thereby producing missing data on their leaders.

[2] For this reason, the results presented in the next section pertain to Unit C (Experimental Unit) only.

a. Is the feedback useful?

| Yes | No | ? |
|---|---|---|
| 67% | 8% | 25% |

b. Will the feedback be used to change his behavior?

| Yes | No |
|---|---|
| 58% | 42% |

c. Can the interviewee suggest any other type of feedback?

| Yes | No |
|---|---|
| 16% | 84% |

Suggestions from the 16 percent:

1. Norms to permit comparison of the respondent's scores to those of other unit supervisors.

2. The unit's overall utilization of these skills.

Typical reactions of respondents to the interviews were:

1. "This is better than I predicted. I must be doing something right. If this is what happened because of the workshop, I'll have to keep using the skills."

2. "Apparently I'm not using the skills. My CO would be upset. I'd better get moving on this."

3. "SKIM is valuable to Army progress."

4. "This information is good for some people, but I'm going to stick with what I know."

DISCUSSION

For many supervisors there were insufficient data to provide feedback. This necessitated the preparation, scoring, and interpretation of special administrations, a costly and time consuming process. This also caused some participants to question the value

of the initial questionnaire administrations. Even when sufficient data was available, there was usually a two-week time lag between administration and presentation of feedback.

It is suggested that a user-based feedback system be developed that will provide more immediate and less costly data to supervisors. This would insure more complete response to the questionnaire and eliminate the necessity of a feedback staff--normally unavailable to TO&E units.

However, if implemented, this procedure would most likely place more pressure on respondents to produce "favorable" ratings of their superiors. Special administrations conducted for specific supervisors produced slightly higher scale scores than those obtained from the regular administration. Therefore, the validity of such a procedure may be questioned.

Feedback was presented in the form of tables and graphs (see Figures I-1 and I-2). Supervisors found data much more interpretable on a graph than in a table. Consequently, future interviews should eliminate the tables and proceed with graphs.

The following statistics describe the overall feedback system effort:

1. 85.3 percent of the total number of supervisors were contacted.

    a. 86.4 percent of the supervisors contacted requested feedback.

    b. Of the total number who requested feedback:

        (1) 48 percent received data.

        (2) 16 percent had too few responses for any reliable feedback.

        (3) 8 percent were unavailable (leave or TDY).

2. 79.4 percent of the total number of supervisors requested supplemental administrations. Of this number:

    a. 82.6 percent were administered supplementals.

    b. 78.9 percent of those supplementals administered were completed.

Administration # _____

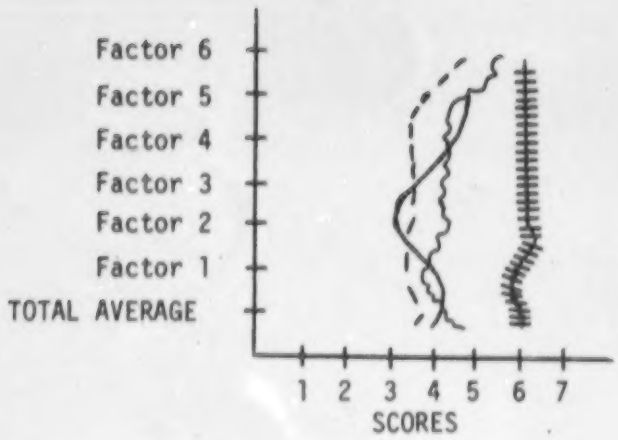
_____
(supervisor's name)

No. of Responses = _____

| | ① NEVER | ② TO A VERY LITTLE EXTENT | ③ TO A LITTLE EXTENT | ④ ABOUT HALF THE TIME | ⑤ TO A GREAT EXTENT | ⑥ TO A VERY GREAT EXTENT | ⑦ ALWAYS |
|---|---|---|---|---|---|---|---|
| TOTAL SCORE | | | | | | | |
| INDIVIDUAL JOB ACCOMPLISHMENT<br>Insuring that the subordinate knows what his job is and understands how to accomplish it; i.e., job is presented in an understandable form, and deals with clarifying the job to the subordinate. | | | | | | | |
| DEALING WITH FEELINGS<br>Being able to separate emotions from the job at hand, being able to clear the air. How the leader handles the the interaction between himself and a subordinate during a counseling session. | | | | | | | |
| GROUP PROBLEM-SOLVING<br>The use of certain techniques by the leader which facilitate and encourage maximum group participation in a group problem-solving setting; using subordinates as a resource for solving problems. | | | | | | | |
| ENCOURAGEMENT OF NEW IDEAS<br>How leader introduces new policies, procedures or missions to subordinates; leader initiates change without creating fear and defensive behavior by having fears and doubts brought out into the open. | | | | | | | |
| GROUP GOAL SETTING<br>Leader and subordinates are able to set realistic goals that are mutually acceptable and conditional based on prescribed criteria; techniques leader uses to obtain goals when subordinates used as a resource. | | | | | | | |
| WORK DISTRIBUTION<br>Leader being able to assign responsibility to those who have the resources and means to carry out the responsibility in an acceptable manner; i.e., how the leader assigns responsibility. | | | | | | | |

Figure I-1. Sample Feedback Table

Name _____




Legend:

---- Before Training

——— Immediately After Training

~~~~ Second Posttraining

|||||||| Special Administration

Figure I-2. Sample Feedback Chart
~~~~

c. 21.0 percent of those supplementals administered could not be given as all survey forms were not completed and collected.

d. 17.4 percent had too few subordinates for reliable feedback data.

3. Of the total number of supervisors who requested feedback:

a. 33.3 percent received feedback from original administrations.

b. 66.6 percent received feedback from supplemental administration.

In summary, a total of 34 supervisors have been given feedback to date. There were 169 actual or attempted contacts.

# APPENDIX J

## IN-DEPTH ANALYSES OF EVALUATION

The following pages provide an in-depth analyses of the relationships among the data. The discussion begins with an examination of possible contaminating effects and measures used to control for them. Tests were then conducted to determine the magnitude and direction of changes in Skill Utilization and Organizational Climate.

### CONTAMINATING VARIABLES

Two types of contamination were possible. The first results from noncomparability between experimental and control units. To hold these effects constant, supervisor's rank, supervisor's position, rater's rank, how long the rater had been in the unit, supervisor's position, and how long the rater had known his supervisor, were covaried out of the dependent variables. This is true for all further analyses and will be implicit in their discussion.

The other source of bias is a consequence of the introduction of training into the subject population. It is extremely possible that SKIM-trained individuals had higher expectations regarding their superior's performance than those not trained. In fact, individuals who were trained indicated that they would rate their superiors lower on the scales after training.

To determine if this effect was present, two different analyses were performed. The first compared SKIM-trained individuals to all members of the control battalion; the second compared SKIM-trained individuals to all other members of the experimental battalion. These analyses are presented in Tables J-1 and J-2.

As may be seen, it is apparent that with the exception of the comparison to Unit C's experimental group, there was generally little difference between raters who were trained and those which were not. Even in those cases where a difference exists, the difference in explained variance was so slight that its practical significance is questionable.

Interpretation of this material is extremely difficult because there have been insufficient data collected to warrant confidence and because the comparisons are, at best, quasi-experimental. The most that can be said is that there is no good reason to believe

TABLE J-1

ANACOVA[1] FOR DIFFERENCES BETWEEN INDIVIDUALS WHO ATTENDED SKIM TRAINING AND ALL MEMBERS OF THE CONTROL GROUP IN TERMS OF SKILL USE AND ORGANIZATIONAL CLIMATE

| | SCALE | UNIT B | | | UNIT C | | |
|---|---|---|---|---|---|---|---|
| | | DIFFERENCE IN EXPLAINED VARIANCE | F | P | DIFFERENCE IN EXPLAINED VARIANCE | F | P |
| SKILL UTILIZATION | OVERALL UTILIZATION OF SKIM TAUGHT SKILLS | .01 | 0.69 | 0.61 | .00 | 0.44 | 0.79 |
| | INDIVIDUAL JOB ACCOMPLISHMENT | .01 | 1.62 | 0.17 | .00 | 0.32 | 0.86 |
| | DEALING WITH FEELINGS | .01 | 0.85 | 0.51 | .00 | 0.28 | 0.89 |
| | GROUP PROBLEM SOLVING | .01 | 1.02 | 0.39 | .00 | 0.26 | 0.90 |
| | ENCOURAGEMENT OF NEW IDEAS | .00 | 0.16 | 0.96 | .00 | 0.70 | 0.60 |
| | GROUP GOAL SETTING | .00 | 0.50 | 0.73 | .00 | 0.30 | 0.88 |
| | WORK DISTRIBUTION | .01 | 1.05 | 0.38 | .00 | 0.18 | 0.95 |
| CLIMATE | OVERALL (UNIT) CLIMATE | .01 | 1.62 | 0.17 | .00 | 1.17 | 0.32 |
| | GROUP GOAL STRIVING | .01 | 0.84 | 0.50 | .01 | 2.95 | 0.02 |
| | LEADER-SUBORDINATE COMMUNICATION/ WORK FACILITATION | .01 | 0.93 | 0.55 | .00 | 0.82 | 0.82 |
| | JOB SATISFACTION | .00 | 0.34 | 0.82 | .00 | 0.78 | 0.54 |

[1] Covariables are supervisor's rank, supervisor's position, rater's rank, how long the rater had been in this unit, and how long the rater had known his supervisor.

TABLE J-2

ANACOVA[1] FOR DIFFERENCES BETWEEN INDIVIDUALS WHO ATTENDED SKIM TRAINING AND ALL MEMBERS OF THE EXPERIMENTAL GROUP IN TERMS OF SKILL USE AND ORGANIZATIONAL CLIMATE

| SCALE | | UNIT B | | | UNIT C | | |
|---|---|---|---|---|---|---|---|
| | | DIFFERENCE IN EXPLAINED VARIANCE | F | P | DIFFERENCE IN EXPLAINED VARIANCE | F | P |
| SKILL UTILIZATION | OVERALL UTILIZATION OF SKIM TAUGHT SKILLS | .01 | 0.67 | 0.62 | .02 | 5.38 | 0.00 |
| | INDIVIDUAL JOB ACCOMPLISHMENT | .01 | 1.55 | 0.19 | .03 | 6.60 | 0.00 |
| | DEALING WITH FEELINGS | .01 | 0.60 | 0.67 | .01 | 1.74 | 0.14 |
| | GROUP PROBLEM SOLVING | .00 | 0.39 | 0.82 | .01 | 3.47 | 0.01 |
| | ENCOURAGEMENT OF NEW IDEAS | .00 | 0.12 | 0.97 | .02 | 4.91 | 0.00 |
| | GROUP GOAL SETTING | .00 | 0.53 | 0.72 | .01 | 2.34 | 0.05 |
| | WORK DISTRIBUTION | .00 | 0.49 | 0.74 | .02 | 4.44 | 0.00 |
| CLIMATE | OVERALL (UNIT) CLIMATE | .01 | 1.14 | 0.34 | .00 | 0.91 | 0.54 |
| | GROUP GOAL STRIVING | .00 | 0.56 | 0.70 | .01 | 1.26 | 0.28 |
| | LEADER-SUBORDINATE COMMUNICATION/ WORK FACILITATION | .01 | 0.76 | 0.56 | .00 | 0.26 | 0.90 |
| | JOB SATISFACTION | .00 | 0.27 | 0.90 | .00 | 0.73 | 0.57 |

[1] Covariables are supervisor's rank, supervisor's position, rater's rank, how long the rater had been in this unit, and how long the rater had known his supervisor.



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training had introduced a large bias into the experimental design; however, these differences should still be borne in mind when tests for overall differences are conducted, especially in Unit C.

## DIFFERENCES BETWEEN EXPERIMENTAL AND CONTROL UNITS IN THEIR UTILIZATION OF SKIM-TAUGHT SKILLS AND ORGANIZATIONAL CLIMATE

As previously mentioned, SKIM's intent was to establish a self-maintaining, self-enhancing system of leadership training. This means that after training, SKIM skills should have increased and Unit Climate become more amenable to productivity and that they both should have continued to increase over time.

### Linear Relationships

The most general form of an increasing relationship is a straight line with a positive slope. Consequently, the differences between experimental and control groups from one administration to the next were compared to the best prediction by straight lines. These are presented in Table J-3.

Most striking is the general lack of significant differences in Unit B compared to the generally significant differences found in Unit C. Comparing the differences in explained variance also produced a sharp contrast between the units; Unit C consistently showed greater differences.

Looking at the Beta weights, the experimental group in Unit B increased more rapidly in Skill Utilization then the control group on all measures except Dealing with Feelings. On the other hand, the experimental group in Unit C decreased more rapidly in Skill Utilization than the control group. Differences for both Units in Climate are so small they are practically negligible.

The overall picture is unclear. There were too few administrations of the questionnaires to be certain of the actual relationships among the data. The relationships in Unit B contradict those in Unit C. Moreover, the strength of the relationships which do exist were so small that they could easily be accounted for by random shifts in the data. It should also be remembered that Unit C appeared to have been significantly affected by training which may account for what appears to be an initial downward trend in its Skill Utilization.

# TABLE J-3

## TEST FOR LINEARITY OF DIFFERENCES[1] FROM ADMINISTRATION TO ADMINISTRATION IN OVERALL (UNIT) CLIMATE AND SKIM SKILL UTILIZATION

| | SCALE | UNIT B | | | | | | | UNIT C | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EXPLAINED-VARIANCE | | | BETA | | F | P | EXPLAINED-VARIANCE | | | BETA | | F | P |
| | | FULL | REDUCED | DIFFERENCE | CONTROL | EXPERIMENTAL | | | FULL | REDUCED | DIFFERENCE | CONTROL | EXPERIMENTAL | | |
| SKILL UTILIZATION | OVERALL UTILIZATION OF [illegible] SKILLS | .08 | .08 | .0 | .12 | .16 | 0.74 | 0.56 | .10 | .06 | .04 | -.07 | -.15 | 8.72 | 0.00 |
| | INDIVIDUAL JOB ACCOMPLISHMENT | .09 | .08 | .01 | .12 | .19 | 0.88 | 0.52 | .11 | .06 | .05 | -.03 | -.18 | 13.07 | 0.01 |
| | DEALING WITH FEELINGS | .04 | .04 | .00 | .13 | .10 | 0.01 | 1.00 | .05 | .04 | .01 | -.06 | -.13 | 2.33 | 0.05 |
| | GROUP PROBLEM SOLVING | .06 | .06 | .00 | .07 | .14 | 0.50 | 0.74 | .06 | .05 | .02 | -.01 | -.10 | 4.36 | 0.00 |
| | ENCOURAGEMENT OF NEW IDEAS | .05 | .05 | .00 | .12 | .12 | 0.52 | 0.73 | .06 | .04 | .02 | .01 | -.14 | 5.17 | 0.00 |
| | GROUP GOAL SETTING | .05 | .05 | .00 | .09 | .10 | 0.18 | 0.95 | .06 | .04 | .02 | .00 | -.10 | 4.98 | 0.00 |
| | WORK DISTRIBUTION | .10 | .10 | .01 | .14 | .16 | 0.67 | 0.61 | .11 | .08 | .04 | -.03 | -.13 | 9.24 | 0.00 |
| CLIMATE | OVERALL (UNIT) CLIMATE | .13 | .11 | .02 | .16 | .15 | 2.84 | 0.02 | .08 | .07 | .01 | .03 | -.03 | 2.95 | 0.02 |
| | GROUP GOAL STRIVING | .09 | .08 | .02 | .11 | .10 | 1.86 | 0.11 | .07 | .06 | .01 | .04 | .03 | 1.53 | 0.11 |
| | LEADER-SUBORDINATE COMMUNICATION/ WORK FACILITATION | .11 | .09 | .03 | .14 | .14 | 3.23 | 0.01 | .06 | .06 | .01 | .02 | .02 | 1.81 | 0.12 |
| | JOB SATISFACTION | .04 | .03 | .00 | .05 | -.02 | 0.08 | 0.98 | .04 | .03 | .01 | -.04 | -.03 | 1.82 | 0.12 |

[1]Covariables are supervisor's rank, supervisor's position, rater's rank, how long the rater had been in this unit, and how long the rater had known his supervisor.

## DIFFERENCES BETWEEN EXPERIMENTAL AND CONTROL GROUPS

The significance of overall differences between experimental and control groups are presented in Table J-4. Except for Overall Climate, Unit B's control group was not significantly different from the experimental group. Unit C does exhibit significant differences in Skill Utilization but not in Unit Climate. Differences in explained variance for both units were small in all cases.

Since changes in Unit C are nonlinear, it is possible that slight positive increases existed in the last administration of the questionnaire which were washed out by the overall trend of the data. Table J-5 investigates this possibility. Though differences in explained variance were small, experimental and control groups were significantly different ($p<.05$) in their Skill Utilization except for Group Problem-Solving and Group Goal Setting. Differences in Unit Climate were small and not significant. Beta weights indicated the experimental unit decreased in Skill Utilization more rapidly than the control unit.

It is apparent, therefore, that after SKIM training, a small, insignificant increase in SKIM-taught skills occurred in the experimental group of Unit B and a small, significant decrease in these skills occurred in the experimental group of Unit C. Overall Climate in both units was unaffected.

## DIFFERENCES BETWEEN INDIVIDUALS TRAINED IN SKIM-TAUGHT SKILLS AND INDIVIDUALS NOT TRAINED IN THESE SKILLS

The most direct effect of SKIM should have been experienced by individuals who participated in training. Analysis of the reaction to training should have provided a clearer picture of training effects and produced insight into the relationships between workshop-related changes and changes in the Unit.

## LINEAR RELATIONSHIPS

It was hypothesized that SKIM training would produce increased utilization of SKIM-taught skills over time. To determine if these skills were increasing, changes in utilization were compared with the best linear fit for the same data. These comparisons are presented in Table J-6.

TABLE J-4

ANACOVA[1] FOR DIFFERENCES BETWEEN EXPERIMENTAL AND CONTROL GROUPS IN SKILL UTILIZATION AND ORGANIZATIONAL CLIMATE

| | SCALE | UNIT B | | | UNIT C | | |
|---|---|---|---|---|---|---|---|
| | | DIFFERENCE IN EXPLAINED VARIANCE | F | P | DIFFERENCE IN EXPLAINED VARIANCE | F | P |
| SKILL UTILIZATION | OVERALL UTILIZATION OF SKIM TAUGHT SKILLS | .01 | 1.32 | 0.26 | .03 | 7.02 | 0.00 |
| | INDIVIDUAL JOB ACCOMPLISHMENT | .02 | 2.40 | 0.05 | .04 | 9.69 | 0.00 |
| | DEALING WITH FEELINGS | .01 | 1.14 | 0.34 | .01 | 3.35 | 0.01 |
| | GROUP PROBLEM SOLVING | .01 | 0.67 | 0.62 | .02 | 4.29 | 0.00 |
| | ENCOURAGEMENT OF NEW IDEAS | .01 | 1.11 | 0.35 | .02 | 5.39 | 0.00 |
| | GROUP GOAL SETTING | .00 | 0.56 | 0.69 | .01 | 3.04 | 0.02 |
| | WORK DISTRIBUTION | .01 | 1.52 | 0.19 | .03 | 6.31 | 0.00 |
| CLIMATE | OVERALL (UNIT) CLIMATE | .02 | 3.06 | 0.02 | .00 | 0.48 | 0.75 |
| | GROUP GOAL STRIVING | .01 | 1.15 | 0.33 | .01 | 2.36 | 0.05 |
| | LEADER-SUBORDINATE COMMUNICATION/ WORK FACILITATION | .017 | 2.10 | 0.08 | .00 | 0.23 | 0.92 |
| | JOB SATISFACTION | .00 | 0.39 | 0.85 | .00 | 0.28 | 0.89 |

[1] Covariables are supervisor's rank, supervisor's position, rater's rank, how long the rater had been in this unit, and how long the rater had known his supervisor.

TABLE J-5

DIFFERENCES[1] BETWEEN UNIT C EXPERIMENTAL AND CONTROL GROUPS IN SKILL UTILIZATION AND CLIMATE ON THE LAST ADMINISTRATION OF THE QUESTIONNAIRE

| | SCALE | BETA | | DIFFERENCE IN EXPLAINED VARIANCE | F | P |
|---|---|---|---|---|---|---|
| | | CONTROL | EXPERIMENTAL | | | |
| SKILL UTILIZATION | OVERALL UTILIZATION OF SKIM TAUGHT SKILLS | -.03 | -.10 | .01 | 4.64 | 0.01 |
| | INDIVIDUAL JOB ACCOMPLISHMENT | -.05 | -.14 | .01 | 6.27 | 0.00 |
| | DEALING WITH FEELINGS | -.06 | -.09 | .01 | 4.42 | 0.01 |
| | GROUP PROBLEM SOLVING | -.02 | -.08 | .01 | 2.51 | 0.08 |
| | ENCOURAGEMENT OF NEW IDEAS | -.04 | -.12 | .01 | 6.55 | 0.00 |
| | GROUP GOAL SETTING | -.01 | - 06 | .00 | 1.56 | 0.21 |
| | WORK DISTRIBUTION | -.04 | -.09 | .01 | 4.13 | 0.02 |
| CLIMATE | OVERALL (UNIT) CLIMATE | .01 | .01 | .00 | 0.14 | 0.87 |
| | GROUP GOAL STRIVING | .07 | .05 | .01 | 2.74 | 0.06 |
| | LEADER-SUBORDINATE COMMUNICATION/ WORK FACILITATION | .01 | .01 | .00 | 0.17 | 0.85 |
| | JOB SATISFACTION | -.04 | .01 | .00 | 0.56 | 0.58 |

[1]Covariables are supervisor's rank, supervisor's position, rater's rank, how long the rater had been in this unit and how long the rater had known his supervisor.



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Table J-6

Test[1] for Linearity of Differences Between Administrations
in
Subordinate Climate and Skill Utilization for Workshop Participants

UNIT B

| SCALE | | EXPLAINED VARIANCE | | | BETA | F | P |
|---|---|---|---|---|---|---|---|
| | | FULL | REDUCED | Difference | | | |
| SKILL UTILIZATION | Overall Utilization of SKIM-Taught Skills | .06 | .05 | .01 | .11 | 1.35 | .26 |
| | Individual Job Accomplishment | .04 | .03 | .00 | .10 | 1.13 | .33 |
| | Dealing With Feelings | .02 | .02 | .00 | .03 | .43 | .66 |
| | Group Problem-Solving | .06 | .05 | .00 | .13 | .72 | .51 |
| | Encouragement of New Ideas | .03 | .03 | .00 | .10 | .59 | .56 |
| | Group Goal Setting | .04 | .04 | .01 | .06 | 1.45 | .24 |
| | Work Distribution | .07 | .07 | .00 | .10 | 1.06 | .35 |
| CLIMATE | Overall (Unit) Climate | .08 | .07 | .00 | .08 | 1.40 | .25 |
| | Group Goal Striving | .07 | .06 | .00 | .05 | 1.07 | .35 |
| | Leader-Subordinate Communication/Work Facilitation | .07 | .06 | .01 | .09 | 1.25 | .29 |
| | Job Satisfaction | .03 | .03 | .00 | .02 | .44 | .65 |

UNIT C

| SCALE | | EXPLAINED VARIANCE | | | BETA | F | P |
|---|---|---|---|---|---|---|---|
| | | FULL | REDUCED | Difference | | | |
| SKILL UTILIZATION | Overall Utilization of SKIM-Taught Skills | .04 | .04 | .00 | -.05 | .30 | .75 |
| | Individual Job Accomplishment | .03 | .03 | .00 | -.08 | .10 | .91 |
| | Dealing With Feelings | .02 | .02 | .00 | -.02 | .70 | .50 |
| | Group Problem-Solving | .04 | .04 | .00 | -.03 | .67 | .52 |
| | Encouragement of New Ideas | .03 | .02 | .00 | -.05 | .61 | .55 |
| | Group Goal Setting | .04 | .03 | .00 | -.04 | .60 | .55 |
| | Work Distribution | .06 | .06 | .00 | -.03 | .00 | 1.00 |
| CLIMATE | Overall (Unit) Climate | .07 | .06 | .00 | -.01 | .13 | .87 |
| | Group Goal Striving | .06 | .06 | .00 | .01 | .07 | .93 |
| | Leader-Subordinate Communication/Work Facilitation | .06 | .06 | .00 | -.01 | .13 | .88 |
| | Job Satisfaction | .03 | .03 | .00 | -.01 | .03 | .97 |

[1]Covariables are supervisor's rank, supervisor's position, rater's rank, how long the rater had been in this unit, and how long the rater had known his supervisor.

Differences in explained variance were small and the probability that the data contained linear relationships was high. Beta weights in Unit B were consistently small and positive. In Unit C, they were consistenly small and negative. It was, therefore, concluded that relationships among the data were linear and that participants in Unit B were increasing their Skill Utilization. Since Unit C workshop participants rated their superiors lower after training and these same individuals were subordinate to other workshop participants, it was impossible to determine whether the slight negative trend in the data was a consequence of a real decrease or an artifact of training.

DIFFERENCES BETWEEN WORKSHOP PARTICIPANTS AND NON-WORKSHOP PARTICIPANTS

Comparisons were made between workshop participants, all members of the control group, and all members of the experimental group of each unit to determine if the results presented in Table J-4 could have been attributed to training (see Tables J-7 and J-8).

There was very little difference in the amount of explained variance between SKIM participants, all members of the control group, and all members of the experimental group. Statistically significant differences did exist between workshop participants and members of the experimental group in Unit C for all measures of Skill Utilization except Dealing with Feelings ($p<.05$). Overall utilization of SKIM-taught skills and Individual Job Accomplishment produced significant differences between participants and the control group in Unit B. Beta weights for significant differences indicated SKIM participants declined less in their utilization of skills than the experimental group in Unit C, but improved less than the control group in Unit B.

No direct relationship between SKIM training and increased Skill Utilization could be derived from the data. Training reduced the amount of decrease in Skill Utilization of Unit C but also reduced the increase in Skill Utilization of Unit B. Since Unit B significantly increased its utilization of SKIM-taught skills, whereas Unit C decreased its utilization, inferences regarding the relation of training to skill utilization were difficult to make. This was especially true because of the limited period during which unit changes had been monitored and the weak relationships within the data. It was quite plausable the changes were results of temporary effects specific to one or more of the experimental or control groups.

UNIT B

## TABLE J-7

## DIFFERENCES[1] BETWEEN SKIM PARTICIPANTS AND MEMBERS OF THE CONTROL GROUP IN SKILL UTILIZATION AND CLIMATE

| | SCALE | DIFFERENCES IN EXPLAINED VARIANCE | BETA[2] | | F | P |
|---|---|---|---|---|---|---|
| | | | Control Group | SKIM Participants | | |
| SKILL UTILIZATION | Overall Utilization of SKIM-Taught Skills | .00 | .12 | .11 | 0.57 | 0.69 |
| | Individual Job Accomplishment | .01 | .17 | .09 | 0.94 | 0.56 |
| | Dealing With Feelings | .01 | .13 | .03 | 0.70 | 0.60 |
| | Group Problem-Solving | .00 | .07 | .13 | 0.35 | 0.84 |
| | Encouragement of New Ideas | .01 | .12 | .10 | 0.88 | 0.52 |
| | Group Goal Setting | .00 | .09 | .06 | 0.23 | 0.92 |
| | Work Distribution | .01 | .14 | .10 | 0.90 | 0.54 |
| CLIMATE | Overall (Unit) Climate | .01 | .16 | .08 | 1.54 | 0.19 |
| | Group Goal Striving | .00 | .11 | .05 | 0.57 | 0.68 |
| | Leader-Subordinate Communication/Work Facilitation | .01 | .14 | .09 | 1.07 | 0.37 |
| | Job Satisfaction | .00 | .05 | .02 | 0.28 | 0.89 |

UNIT C

| | SCALE | DIFFERENCES IN EXPLAINED VARIANCE | BETA[2] | | F | P |
|---|---|---|---|---|---|---|
| | | | Control Group | SKIM Participants | | |
| SKILL UTILIZATION | Overall Utilization of SKIM-Taught Skills | .00 | -.02 | -.05 | 1.14 | 0.33 |
| | Individual Job Accomplishment | .01 | -.03 | -.08 | 1.46 | 0.21 |
| | Dealing With Feelings | .00 | -.06 | -.02 | 0.62 | 0.55 |
| | Group Problem-Solving | .00 | -.01 | -.03 | 0.74 | 0.57 |
| | Encouragement of New Ideas | .00 | .01 | -.05 | 1.12 | 0.35 |
| | Group Goal Setting | .00 | .00 | -.04 | 1.00 | 0.41 |
| | Work Distribution | .00 | -.03 | -.03 | 0.41 | 0.80 |
| CLIMATE | Overall (Unit) Climate | .00 | .03 | -.01 | 0.60 | 0.67 |
| | Group Goal Striving | .01 | .08 | .01 | 2.23 | 0.06 |
| | Leader-Subordinate Communication/Work Facilitation | .00 | .02 | -.01 | 0.29 | 0.89 |
| | Job Satisfaction | .00 | -.04 | -.01 | 0.18 | 0.95 |

Table J-8

Differences[1] Between SKIM Participants and Members of the Experimental Group in Skill Utilization and Climate

UNIT B

| | SCALE | DIFFERENCES IN EXPLAINED VARIANCE | BETA[2] Control Group | BETA[2] SKIM Participants | F | P |
|---|---|---|---|---|---|---|
| SKILL UTILIZATION | Overall Utilization of SKIM-Taught Skills | .00 | .16 | .11 | .45 | .74 |
| | Individual Job Accomplishment | .01 | .19 | .10 | .90 | .53 |
| | Dealing With Feelings | .00 | .10 | .03 | .29 | .89 |
| | Group Problem-Solving | .00 | .14 | .13 | .46 | .77 |
| | Encouragement of New Ideas | .00 | .12 | .10 | .15 | .96 |
| | Group Goal Setting | .00 | .10 | .06 | .36 | .84 |
| | Work Distribution | .00 | .16 | .10 | .31 | .87 |
| CLIMATE | Overall (Unit) Climate | .01 | .15 | .08 | .94 | .56 |
| | Group Goal Striving | .00 | .10 | .05 | .30 | .88 |
| | Leader-Subordinate Communication/Work Facilitation | .00 | .14 | .09 | .75 | .56 |
| | Job Satisfaction | .00 | -.02 | .02 | .10 | .98 |

UNIT C

| | SCALE | DIFFERENCES IN EXPLAINED VARIANCE | BETA[2] Control Group | BETA[2] SKIM Participants | F | P |
|---|---|---|---|---|---|---|
| SKILL UTILIZATION | Overall Utilization of SKIM-Taught Skills | .02 | -.15 | -.05 | 5.39 | .00 |
| | Individual Job Accomplishment | .03 | -.18 | -.08 | 6.67 | .00 |
| | Dealing With Feelings | .01 | -.13 | -.02 | 1.99 | .09 |
| | Group Problem-Solving | .02 | -.10 | -.03 | 3.63 | .01 |
| | Encouragement of New Ideas | .02 | -.14 | -.05 | 4.23 | .00 |
| | Group Goal Setting | .01 | -.10 | -.04 | 3.20 | .01 |
| | Work Distribution | .02 | -.13 | -.03 | 4.31 | .00 |
| CLIMATE | Overall (Unit) Climate | .00 | -.03 | -.01 | .24 | .91 |
| | Group Goal Striving | .00 | .03 | .01 | .29 | .88 |
| | Leader-Subordinate Communication/Work Facilitation | .00 | .02 | -.01 | .23 | .92 |
| | Job Satisfaction | .00 | -.03 | -.01 | .26 | .90 |

[1]Covariables are supervisor's rank, supervisor's position, rater's rank, how long the rater had been in this unit, and how long the rater had known his supervisor.

[2]Weights were derived from linear approximations to the data.